

27

W-15-1

16092C3&C5

CS: 16092

ID: C3 C5 W-15-1

BORROW REQUIREMENTS			
WHERE REQUIRED STA TO STA	AMOUNT REQUIRED	AMOUNT AVAILABLE	SOILS SPEC
10+00 TO 12+00	17,267cy	250,000 cy	Kalkaska.
12+00 TO 14+00	73,585cy	175,000 cy	Wexford
14+00 TO 16+00	17,267cy	100,000 cy	Kalkaska.
16+00 TO 18+00	1,199cy		
18+00 TO 20+00	4,111cy	700,000 cy	Roslinn
20+00 TO 22+00	7,267cy		
22+00 TO 24+00	4,111cy		
24+00 TO 26+00	9,222cy		
26+00 TO 28+00	73,585cy		
28+00 TO 30+00	4,111cy		
30+00 TO 32+00	17,267cy		
32+00 TO 34+00	7,267cy		
34+00 TO 36+00	4,111cy		
36+00 TO 38+00	17,267cy		
38+00 TO 40+00	7,267cy		
40+00 TO 42+00	4,111cy		
42+00 TO 44+00	17,267cy		
44+00 TO 46+00	7,267cy		
46+00 TO 48+00	4,111cy		
48+00 TO 50+00	17,267cy		
50+00 TO 52+00	7,267cy		
52+00 TO 54+00	4,111cy		
54+00 TO 56+00	17,267cy		
56+00 TO 58+00	7,267cy		
58+00 TO 60+00	4,111cy		
60+00 TO 62+00	17,267cy		
62+00 TO 64+00	7,267cy		
64+00 TO 66+00	4,111cy		
66+00 TO 68+00	17,267cy		
68+00 TO 70+00	7,267cy		
70+00 TO 72+00	4,111cy		
72+00 TO 74+00	17,267cy		
74+00 TO 76+00	7,267cy		
76+00 TO 78+00	4,111cy		
78+00 TO 80+00	17,267cy		
80+00 TO 82+00	7,267cy		
82+00 TO 84+00	4,111cy		
84+00 TO 86+00	17,267cy		
86+00 TO 88+00	7,267cy		
88+00 TO 90+00	4,111cy		
90+00 TO 92+00	17,267cy		
92+00 TO 94+00	7,267cy		
94+00 TO 96+00	4,111cy		
96+00 TO 98+00	17,267cy		
98+00 TO 100+00	7,267cy		

Notes: 1. All borrow materials shall be of the quality specified in the above table. 2. The above table is for information only. The actual borrow quantities shall be determined by the engineer.

MICHIGAN
 STATE HIGHWAY DEPARTMENT
 JOHN C. MACKIE
 STATE HIGHWAY COMMISSIONER
 PLANS FOR PROPOSED
 MICHIGAN PROJECT 1-75-5(6)-313 PART I
 CONTROL SECTION BI 16092 C 5 RN & C 3 RN
 INDIAN RIVER - MACKINAW CITY ROAD
 CHEBOYGAN COUNTY
 HEBRON & MUNRO TWP'S

Index of Sheets

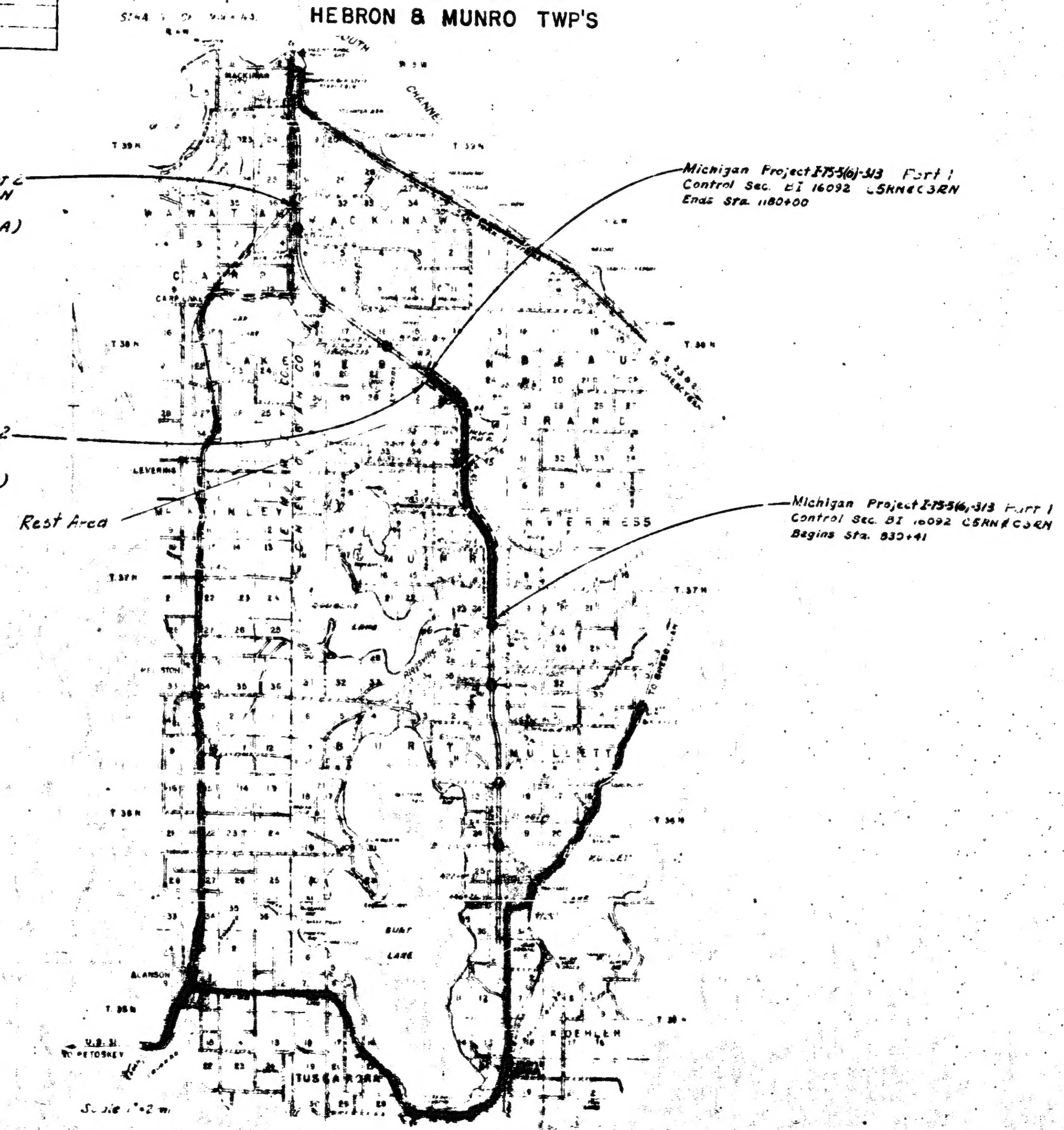
- 1 - Title Sheet
- 2-2A - Typical Cross Sections
- 3 - Notes and Special Provisions
- 4-31 - Plan and Profile
- 32-33 - Man. Diagrams
- 35 - Special Details
- 36-38 - Location Sheets & 36d - 33d
- 33d-41 - Sign Location Plans
- 42-45 - Quantities - Signs & Supports.

For Index to Bridge Plans see Sheet No. 101
For Signing Details See Sheets 301-331

STANDARD PLANS
None

Michigan Proj. F75-5(6)-313 Part 2
Control Sec. BI 16092 C6RN
Ends Sta 1500+00
(For Plans see File No. W-15-1A)

Michigan Proj I-75-5(6)-313 Part 2
Control Sec. BI 16092 C6 RN
Begins Sta 1180+00
(For Plans see File No W-15-1A)



Item No: 217 Part I

CONTRACT NO. *G&DS. and 2@24' Conc. Pavt., 9' Unit.*

DESIGN AND TRAFFIC DIVISIONS

DESIGNED BY *Handwritten signature*

CHECKED BY *Handwritten signature*

FOR APPROVAL *Handwritten signature*

OFFICE OF ENGINEERING AND CONSTRUCTION

APPROVED *Handwritten signature*

STATE HIGHWAY DEPARTMENT APPROVAL

APPROVED *John H. Maule*, STATE HIGHWAY COMMISSIONER

BY *Handwritten signature* DIRECTOR OF ENGINEERING

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

MICROFILMED

W-15-1	FILE	FILE NUMBER	1
	16092	1-15-56; 31	

NOTES

For ditches other than shown on this sheet, see Standard Plan E-4-A-26D.

All unsodded slopes and ditches shall be mulched at the rate of 3 tons per acre and seeded (Class 3 Seeding). Topsoil shall be removed and stockpiled as directed by the Engineer for use as topsoil surface.

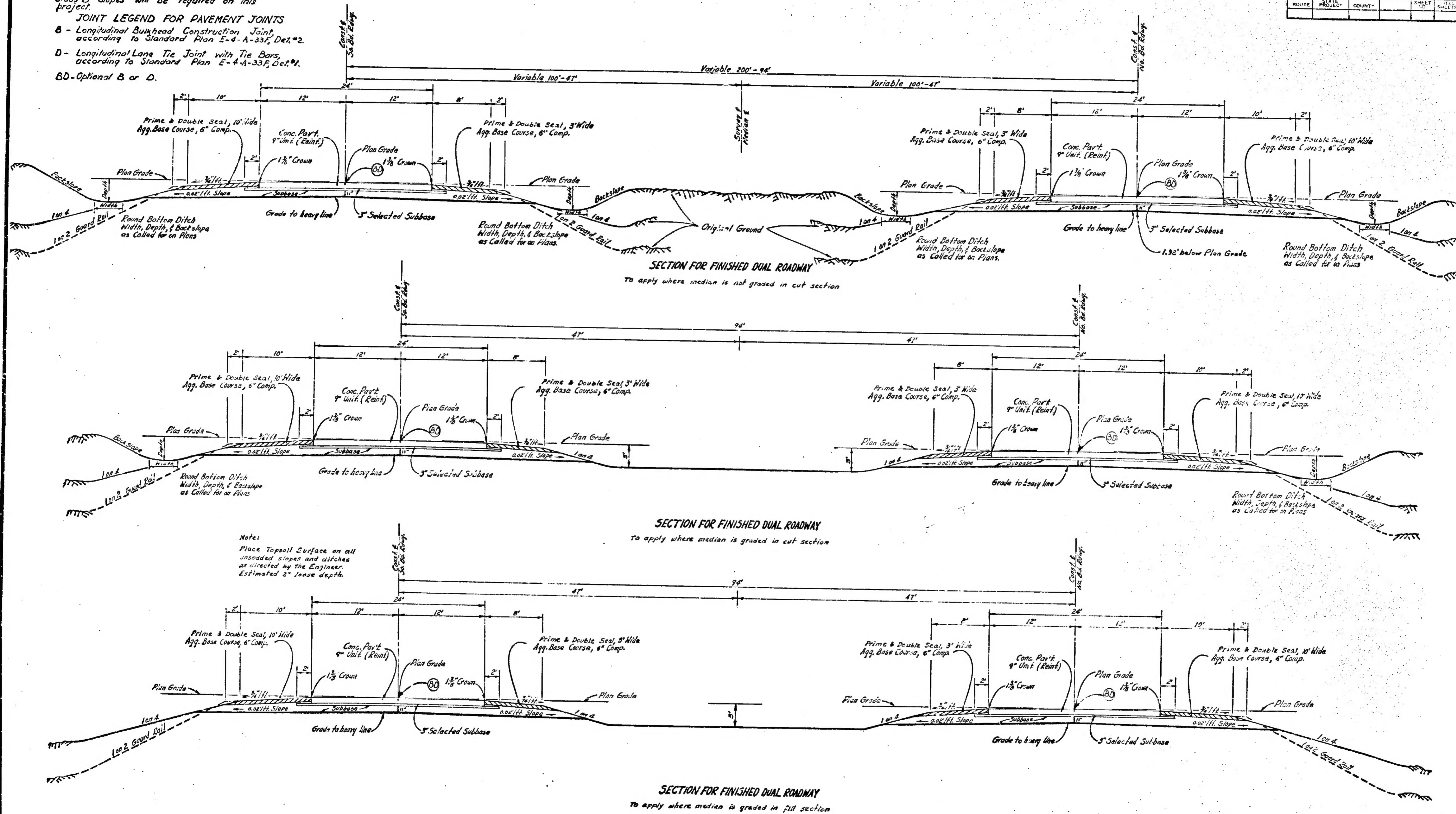
Class B Slopes will be required on this project.

JOINT LEGEND FOR PAVEMENT JOINTS

- B - Longitudinal Bulkhead Construction Joint, according to Standard Plan E-4-A-33F, Det. #2.
- D - Longitudinal Lane Tie Joint with Tie Bars, according to Standard Plan E-4-A-33F, Det. #1.
- BD - Optional B or D.

TYPICAL CROSS-SECTIONS

S.P. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	175-5(6) 33			
ROUTE	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
US 27	16092	ENH 8070M		2	
S.P. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	175-5(6) 33			
ROUTE	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



Notes:
Place Topsoil Surface on all unsodded slopes and ditches as directed by the Engineer. Estimated 2" loose depth.

SECTION FOR FINISHED DUAL ROADWAY
To apply where median is graded in fill section

Scale 1"=4'

MICROFILMED

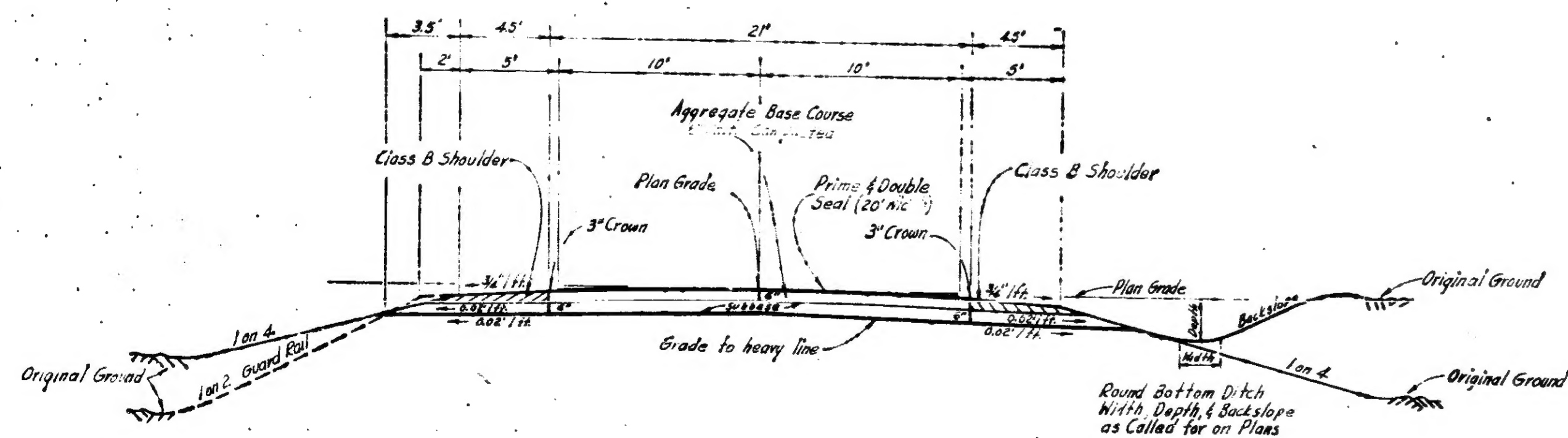
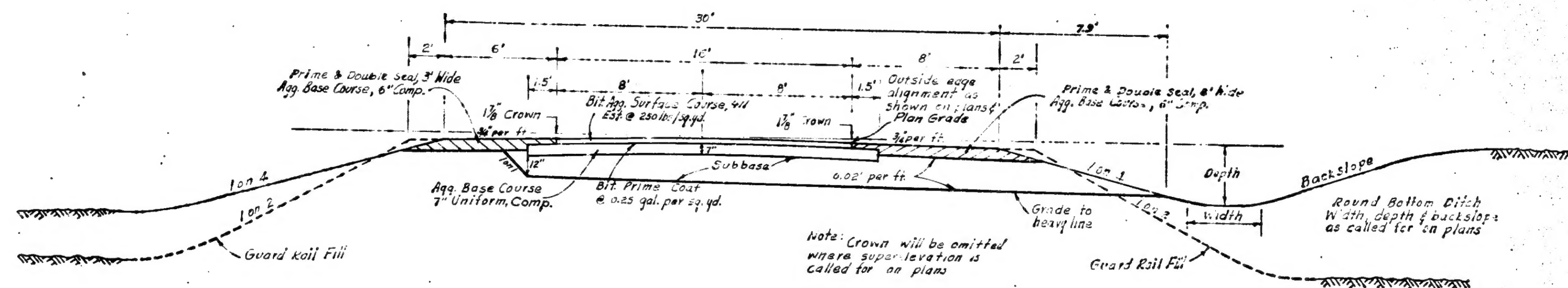
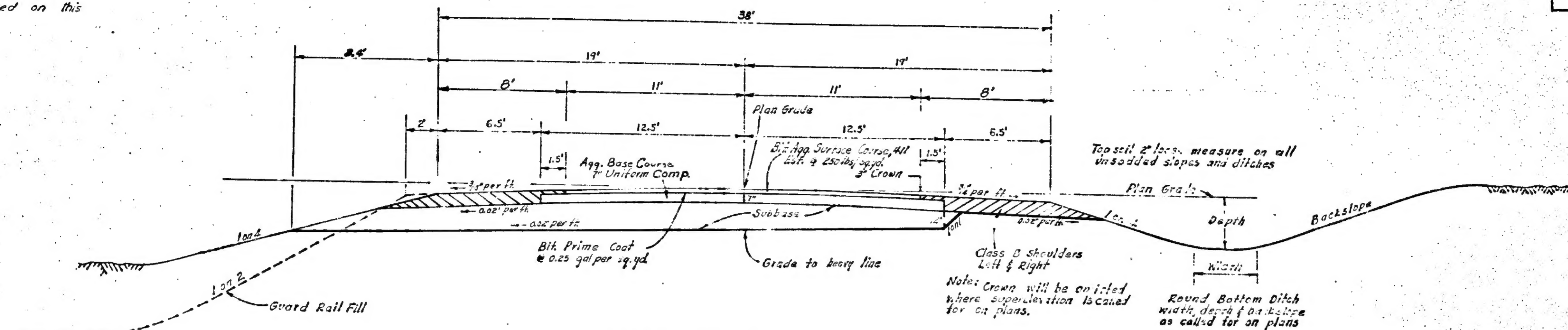
NOTES
For ditches other than shown on this sheet, see Standard Plan E-4-A-260.

All unsodded slopes and ditches shall be mulched at the rate of 3 tons per acre and seeded (Class B Seeding). Topsoil shall be removed and stockpiled as directed by the Engineer for use as topsoil surface.

Class B Slopes will be required on this project.

TYPICAL CROSS-SECTIONS

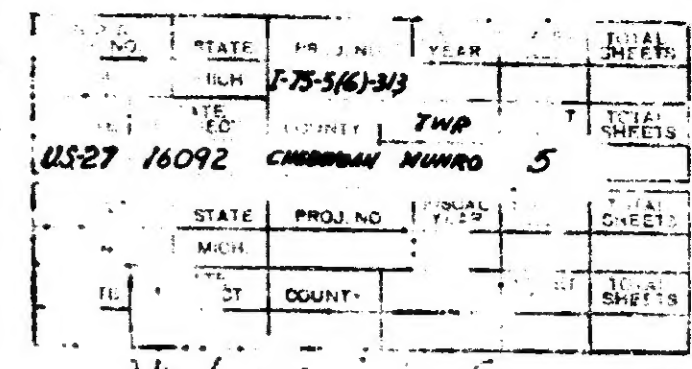
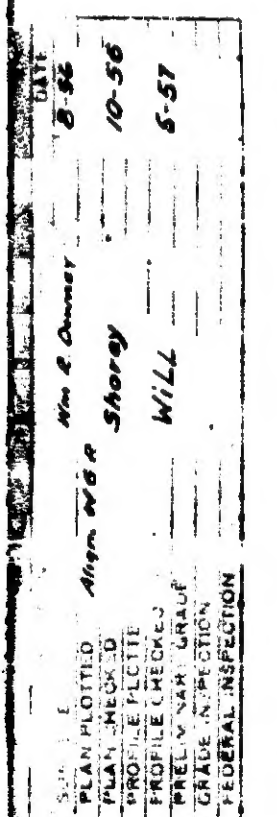
STATE	ROUTE	PROJECT	SHEET NO.	TOTAL SHEETS
WISCONSIN	16092	2A	2A	2A



MICROFILMED

W-15-1

16092-03



W-15-1 16092 J-75-343 5

Fill Section 1 on 2 Slope
 3' x 4' R.B. Ditch 1 on 3 B.S.
 Fill Section 1 on 4 Slope
 3' x 4' R.B. Ditch 1 on 3 B.S.

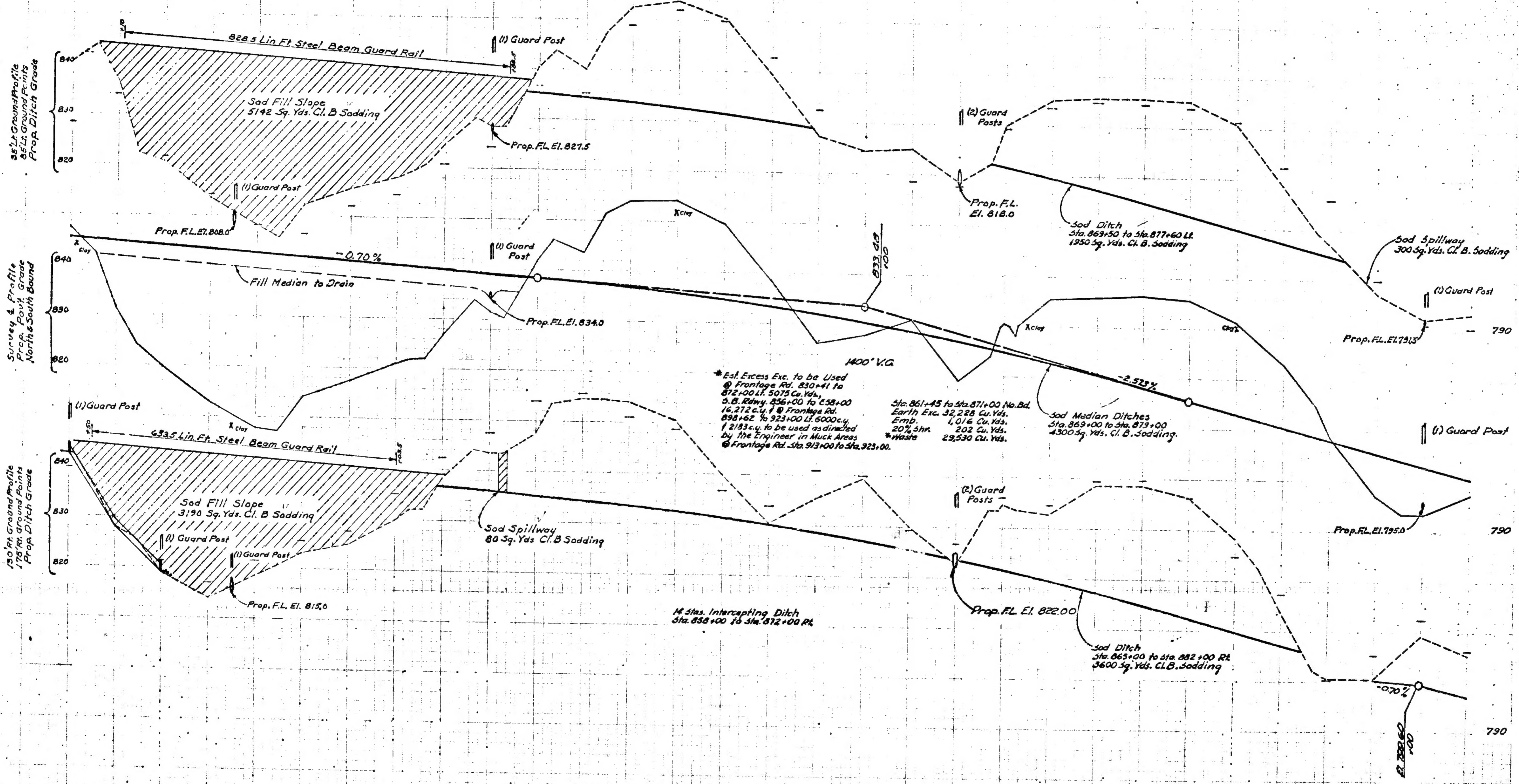
Sta. 830+41 to Sta. 915+78 No. Bd.
 22375 cu. yd. Subbase
 41819 comp. cu. yd. mi. Overhaul
 Est. to be obtained from P1146

Sta. 830+41 to Sta. 915+78 No. Bd.
 22375 cu. yd. Subbase
 41819 comp. cu. yd. mi. Overhaul
 Est. to be obtained from P1146

B.P.A.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	16092	1958	6	6
ROUTE	PROJ. NO.	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS
US 27	16092	CHEBOYAN	MUNRO	6	6

Fill Section 1 on 4 Slope
 3' x 4' R.B. Ditch 1 on 3 B.S.

Sod Spillway along Frontage Road
 Sta. 850+00 to Sta. 855+00
 500 Sq. Yds. Cl. B Sodding



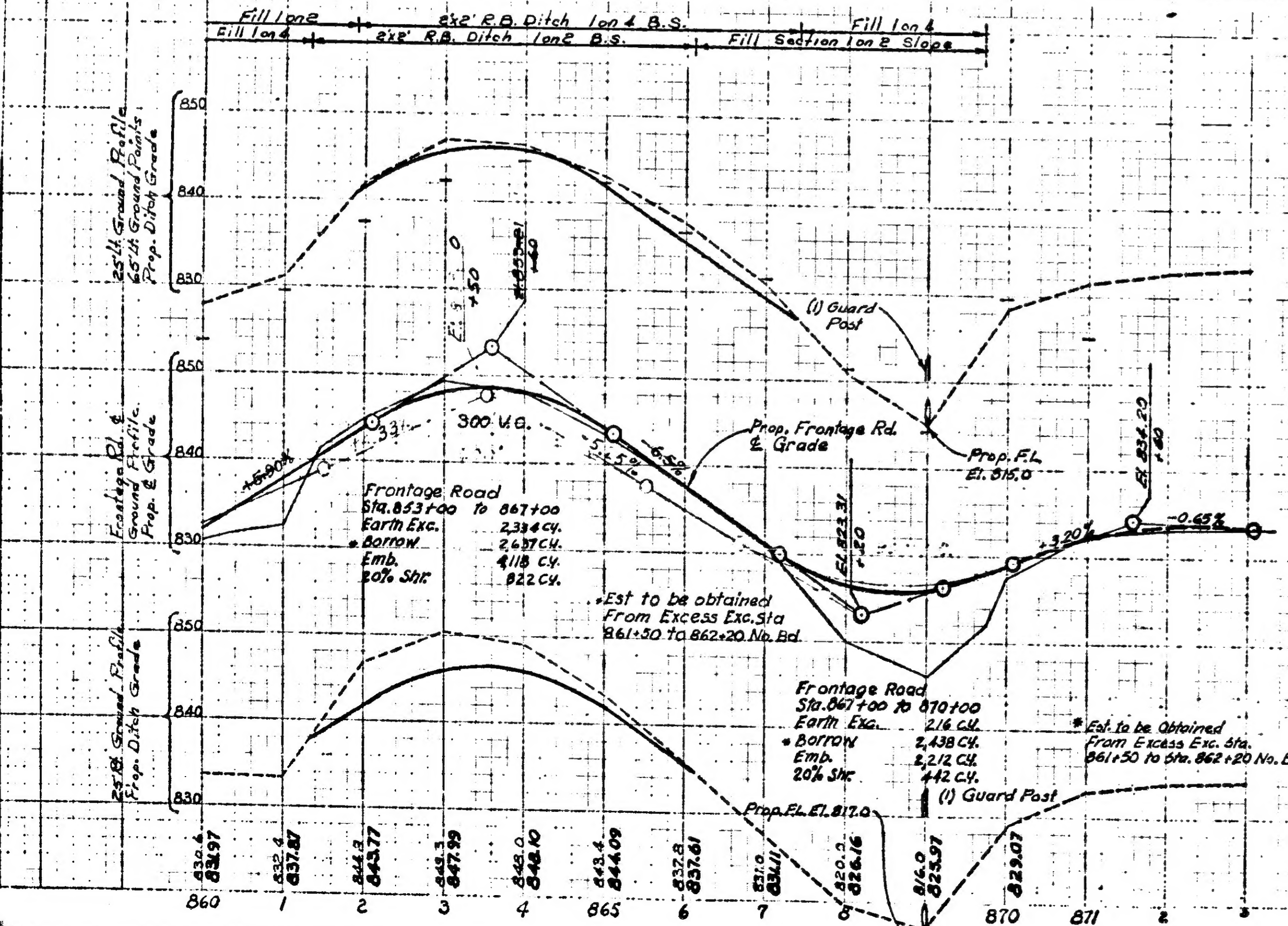
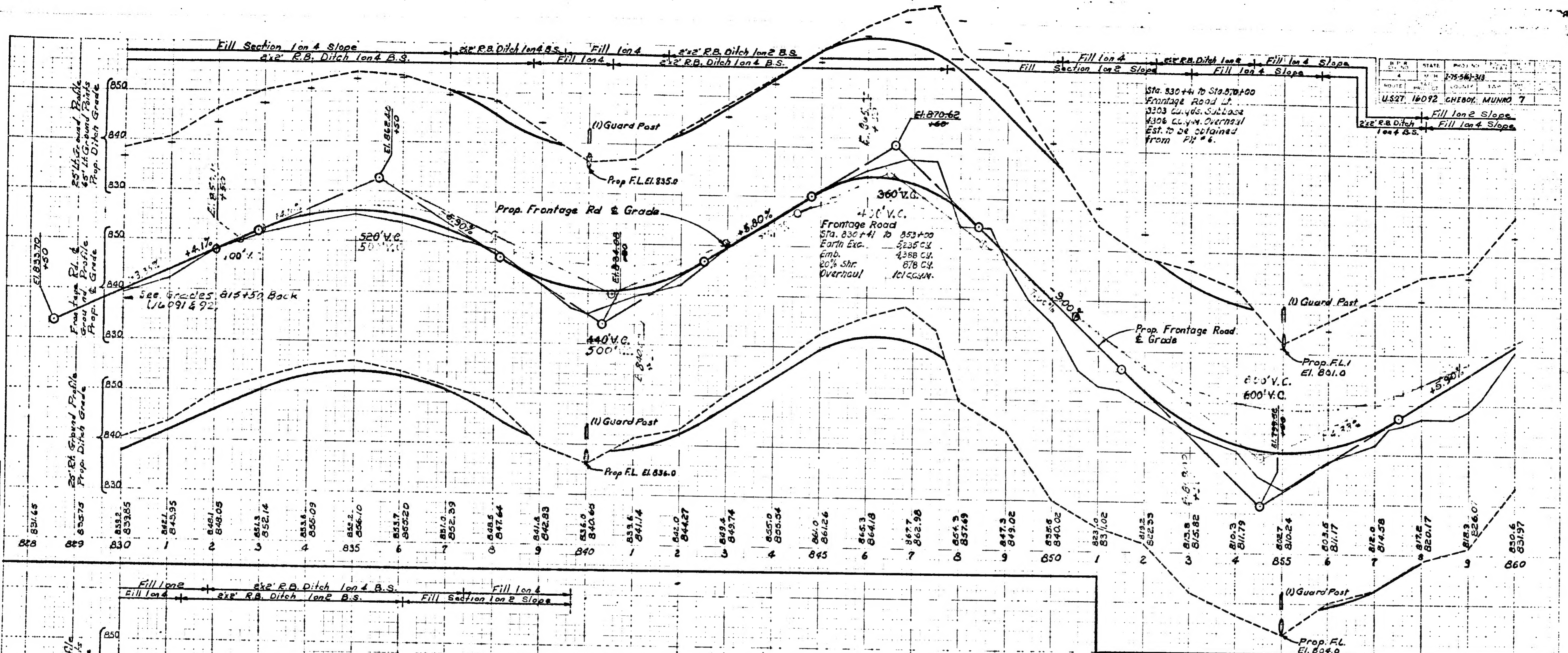
847.5
 845.38
 841.68
 841.98
 841.28
 840.78
 840.58
 840.38
 840.18
 840.48
 840.78
 841.08
 841.38
 841.68
 841.98
 842.28
 842.58
 842.88
 843.18
 843.48
 843.78
 844.08
 844.38
 844.68
 844.98
 845.28
 845.58
 845.88
 846.18
 846.48
 846.78
 847.08
 847.38
 847.68
 847.98
 848.28
 848.58
 848.88
 849.18
 849.48
 849.78
 850.08
 850.38
 850.68
 850.98
 851.28
 851.58
 851.88
 852.18
 852.48
 852.78
 853.08
 853.38
 853.68
 853.98
 854.28
 854.58
 854.88
 855.18
 855.48
 855.78
 856.08
 856.38
 856.68
 856.98
 857.28
 857.58
 857.88
 858.18
 858.48
 858.78
 859.08
 859.38
 859.68
 859.98
 860.28
 860.58
 860.88
 861.18
 861.48
 861.78
 862.08
 862.38
 862.68
 862.98
 863.28
 863.58
 863.88
 864.18
 864.48
 864.78
 865.08
 865.38
 865.68
 865.98
 866.28
 866.58
 866.88
 867.18
 867.48
 867.78
 868.08
 868.38
 868.68
 868.98
 869.28
 869.58
 869.88
 870.18
 870.48
 870.78
 871.08
 871.38
 871.68
 871.98
 872.28
 872.58
 872.88
 873.18
 873.48
 873.78
 874.08
 874.38
 874.68
 874.98
 875.28
 875.58
 875.88
 876.18
 876.48
 876.78
 877.08
 877.38
 877.68
 877.98
 878.28
 878.58
 878.88
 879.18
 879.48
 879.78
 880.08
 880.38
 880.68
 880.98
 881.28
 881.58
 881.88
 882.18
 882.48
 882.78
 883.08
 883.38
 883.68
 883.98
 884.28
 884.58
 884.88
 885.18
 885.48
 885.78
 886.08
 886.38
 886.68
 886.98
 887.28
 887.58
 887.88
 888.18
 888.48
 888.78
 889.08
 889.38
 889.68
 889.98
 890.28
 890.58
 890.88
 891.18
 891.48
 891.78
 892.08
 892.38
 892.68
 892.98
 893.28
 893.58
 893.88
 894.18
 894.48
 894.78
 895.08
 895.38
 895.68
 895.98
 896.28
 896.58
 896.88
 897.18
 897.48
 897.78
 898.08
 898.38
 898.68
 898.98
 899.28
 899.58
 899.88
 900.18
 900.48
 900.78
 901.08
 901.38
 901.68
 901.98
 902.28
 902.58
 902.88
 903.18
 903.48
 903.78
 904.08
 904.38
 904.68
 904.98
 905.28
 905.58
 905.88
 906.18
 906.48
 906.78
 907.08
 907.38
 907.68
 907.98
 908.28
 908.58
 908.88
 909.18
 909.48
 909.78
 910.08
 910.38
 910.68
 910.98
 911.28
 911.58
 911.88
 912.18
 912.48
 912.78
 913.08
 913.38
 913.68
 913.98
 914.28
 914.58
 914.88
 915.18
 915.48
 915.78
 916.08
 916.38
 916.68
 916.98
 917.28
 917.58
 917.88
 918.18
 918.48
 918.78
 919.08
 919.38
 919.68
 919.98
 920.28
 920.58
 920.88
 921.18
 921.48
 921.78
 922.08
 922.38
 922.68
 922.98
 923.28
 923.58
 923.88
 924.18
 924.48
 924.78
 925.08
 925.38
 925.68
 925.98
 926.28
 926.58
 926.88
 927.18
 927.48
 927.78
 928.08
 928.38
 928.68
 928.98
 929.28
 929.58
 929.88
 930.18
 930.48
 930.78
 931.08
 931.38
 931.68
 931.98
 932.28
 932.58
 932.88
 933.18
 933.48
 933.78
 934.08
 934.38
 934.68
 934.98
 935.28
 935.58
 935.88
 936.18
 936.48
 936.78
 937.08
 937.38
 937.68
 937.98
 938.28
 938.58
 938.88
 939.18
 939.48
 939.78
 940.08
 940.38
 940.68
 940.98
 941.28
 941.58
 941.88
 942.18
 942.48
 942.78
 943.08
 943.38
 943.68
 943.98
 944.28
 944.58
 944.88
 945.18
 945.48
 945.78
 946.08
 946.38
 946.68
 946.98
 947.28
 947.58
 947.88
 948.18
 948.48
 948.78
 949.08
 949.38
 949.68
 949.98
 950.28
 950.58
 950.88
 951.18
 951.48
 951.78
 952.08
 952.38
 952.68
 952.98
 953.28
 953.58
 953.88
 954.18
 954.48
 954.78
 955.08
 955.38
 955.68
 955.98
 956.28
 956.58
 956.88
 957.18
 957.48
 957.78
 958.08
 958.38
 958.68
 958.98
 959.28
 959.58
 959.88
 960.18
 960.48
 960.78
 961.08
 961.38
 961.68
 961.98
 962.28
 962.58
 962.88
 963.18
 963.48
 963.78
 964.08
 964.38
 964.68
 964.98
 965.28
 965.58
 965.88
 966.18
 966.48
 966.78
 967.08
 967.38
 967.68
 967.98
 968.28
 968.58
 968.88
 969.18
 969.48
 969.78
 970.08
 970.38
 970.68
 970.98
 971.28
 971.58
 971.88
 972.18
 972.48
 972.78
 973.08
 973.38
 973.68
 973.98
 974.28
 974.58
 974.88
 975.18
 975.48
 975.78
 976.08
 976.38
 976.68
 976.98
 977.28
 977.58
 977.88
 978.18
 978.48
 978.78
 979.08
 979.38
 979.68
 979.98
 980.28
 980.58
 980.88
 981.18
 981.48
 981.78
 982.08
 982.38
 982.68
 982.98
 983.28
 983.58
 983.88
 984.18
 984.48
 984.78
 985.08
 985.38
 985.68
 985.98
 986.28
 986.58
 986.88
 987.18
 987.48
 987.78
 988.08
 988.38
 988.68
 988.98
 989.28
 989.58
 989.88
 990.18
 990.48
 990.78
 991.08
 991.38
 991.68
 991.98
 992.28
 992.58
 992.88
 993.18
 993.48
 993.78
 994.08
 994.38
 994.68
 994.98
 995.28
 995.58
 995.88
 996.18
 996.48
 996.78
 997.08
 997.38
 997.68
 997.98
 998.28
 998.58
 998.88
 999.18
 999.48
 999.78
 1000.08

Final Design LAURIN 1958
 W.P. J. Survey 8-58
 LDF/ASB
 WILL 5-57
 1958
 LAURIN
 1958

W-15-1

MICROFILMED

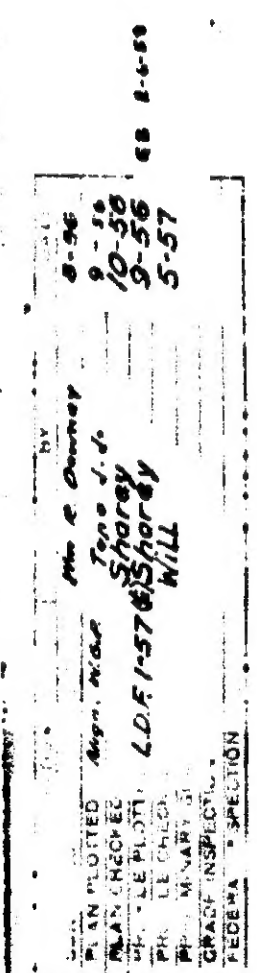
BY DATE
 G. B. 4-3-57
 CHECKED 4-3-57
 L. W. AT
 LAURIN 1958



For Continuation of Frontage Road Profiles Sta. 870+00 to Sta. 924+00 See Sheet #10

FRONTAGE ROAD
Sta. 830+00 to 870+00

W-15-1



Witnesses to P.O.T. Sta. 910+82.57
Sod Spike
N 62° W - 5' Maple - 14.78'
N 48° E - 10' Ironwood - 6.78'
S 50° E - 8' Maple - 25.55'

Clearing & Grubbing Frontage Road
Sta. 910+00 to Sta. 922+40 L.
1.8 Acres Clearing
250 Sq. Yds. Grubbing

B.M. 213 - Elev. 752.32
R.K. nail & B.M. cap in
N. root of 21" Maple
176' Lt. of Sta. 916+75

Witnesses to P.O.T. Sta. 916+38.88
Boat Spike
N 102° E - Spruce - 25.05'
S 35° E - 4' Balsam - 9.09'
S 27° W - 5' Balsam - 17.55'

Sec. 13
T37N-R3W

50' of 60" Class X Culv.
227 Cu. Yds. For Mat. Gr. A

Witnesses to Sec. Cor. Common
To Sec. 12 & 13 T37N-R3W
36" Pipe
N 142° E - 13' Poplar - 66.36'
N 142° E - 6' Elm - 57.52'
S 22° W - 8' Cherry - 31.80'

Const. & Curve Data
Sta. 921+00 to 927+00
Δ = 38° 59' 08" Lt.
D = 1" Chord (Def)
R = 5729.65'
T = 3328.16'
L = 3896.54'
E = 3+8.37'
PC = 915+78.48
PT = 934+36.64
PI = 925+17.56
Superelevation 0.02/ft

Witnesses to P.O.T. Sta. 926+28.07
Boat Spike
S 60° E - N.E. Cor. 25' F. No. - 31.93'
S 19° E - N.W. Cor. 25' F. No. - 11.55'

B.M. 214 - Elev. 776.73
R.K. nail & B.M. cap in
N. root of 14" Apple
336' Rt. of Sta. 926+02

Survey & Curve Data
Sta. 927+00 to 936+56.71
Δ = 38° 59' 08" Lt.
D = 1" Chord
R = 5729.65'
T = 3328.16'
L = 3896.54'
E = 3+8.37'
PC = 915+78.48
PT = 934+36.64
PI = 925+17.56
Superelevation 0.02/ft

Witnesses to P.O.T. Sta. 936+56.71
Boat Spike (171' below Surf)
N 65° W - 18' Ironwood - 113.64'
S 11° W - Fence Post - 86.94'

B.M. 215 - Elev. 766.97
R.K. nail & B.M. cap in
N.E. root of 17" Ironwood
240' Rt. of Sta. 936+22

Sec. 12
T37N-R3W

Grade & Surface Frontage Road
Sta. 921+00 to 927+00 Rt.
4407 Tons. Aggregate Base Course 4" Comp.
844 Cu. Yds. C.I. B. Shoulders
3151 Gals. Bituminous Prime Coat
8821 Gals. Bituminous Material Applied
158 Tons. Cover Material 26 B
145 Tons. Cover Material 31 B
133 Tons. Calcium Chloride, Admixed
3.3 Units Water

15 Cu. Yds. Removing Masonry & Concrete
(Sta. 923+70 to 925+25)

HENRY A. WOLF

Fence R.O.W. This Sheet
309 Lin. Rds. Woven Wire Fence (Steel Posts)
58 Lin. Rds. Woven Wire Fence (Wood Posts)
367 Lin. Rds. Barbed Wire

Clearing & Grubbing
Sta. 910+00 to 922+40 (No. 2 So. Bd.)
5.1 Acres Clearing
816 Sq. Yds. Grubbing

64' of 15" C.I. B. Culv. with Dyke
28 Cu. Yds. For Mat. Gr. A
50 Sq. Yds. C.I. B. Sodding

Removing Trees This Sheet
13' to 24" dia. (A) each
25' to 36" dia. (B) each

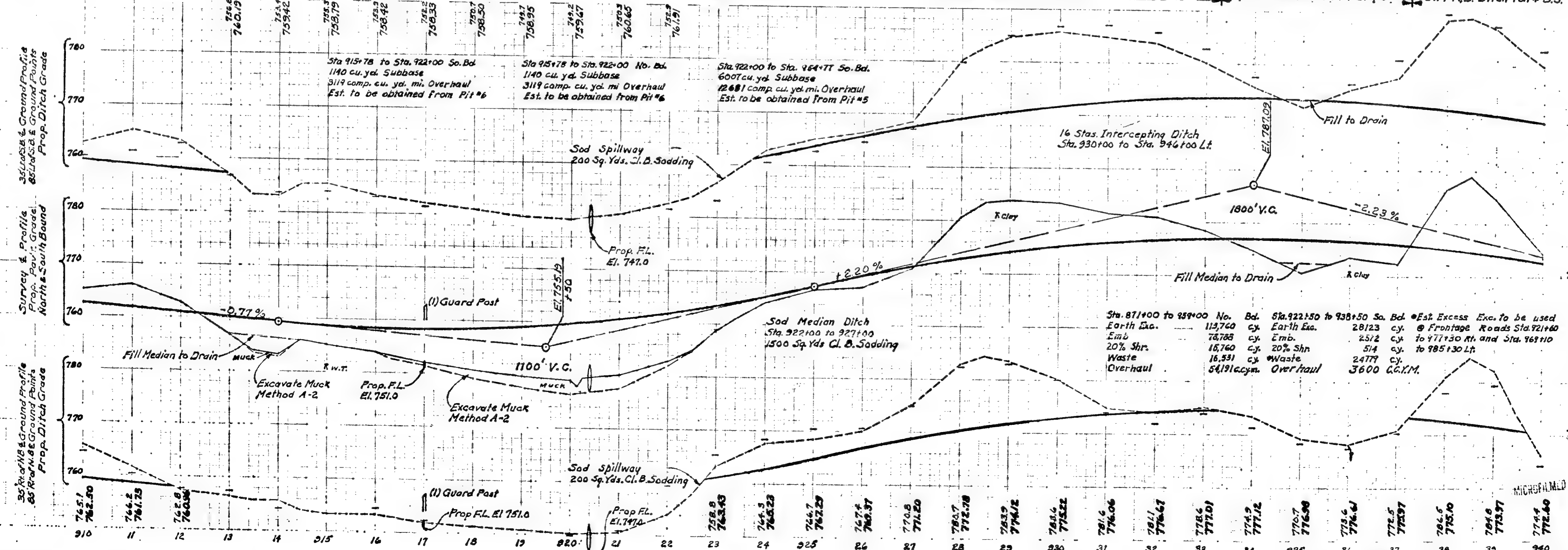
132' of 60" Class B Culv.
812 Cu. Yds. For Mat. Gr. A

78.5' Lin. Ft. Steel Beam Guard Rail
(For Frontage Road)

For Frontage Road Profiles
Sta. 920+00 to Sta. 924+00 Lt.
See Sheet #10
Sta. 921+00 to Sta. 924+00 Rt.
See Sheet #11

64' of 18" Class X Culv.
31 Cu. Yds. For Mat. Gr. A

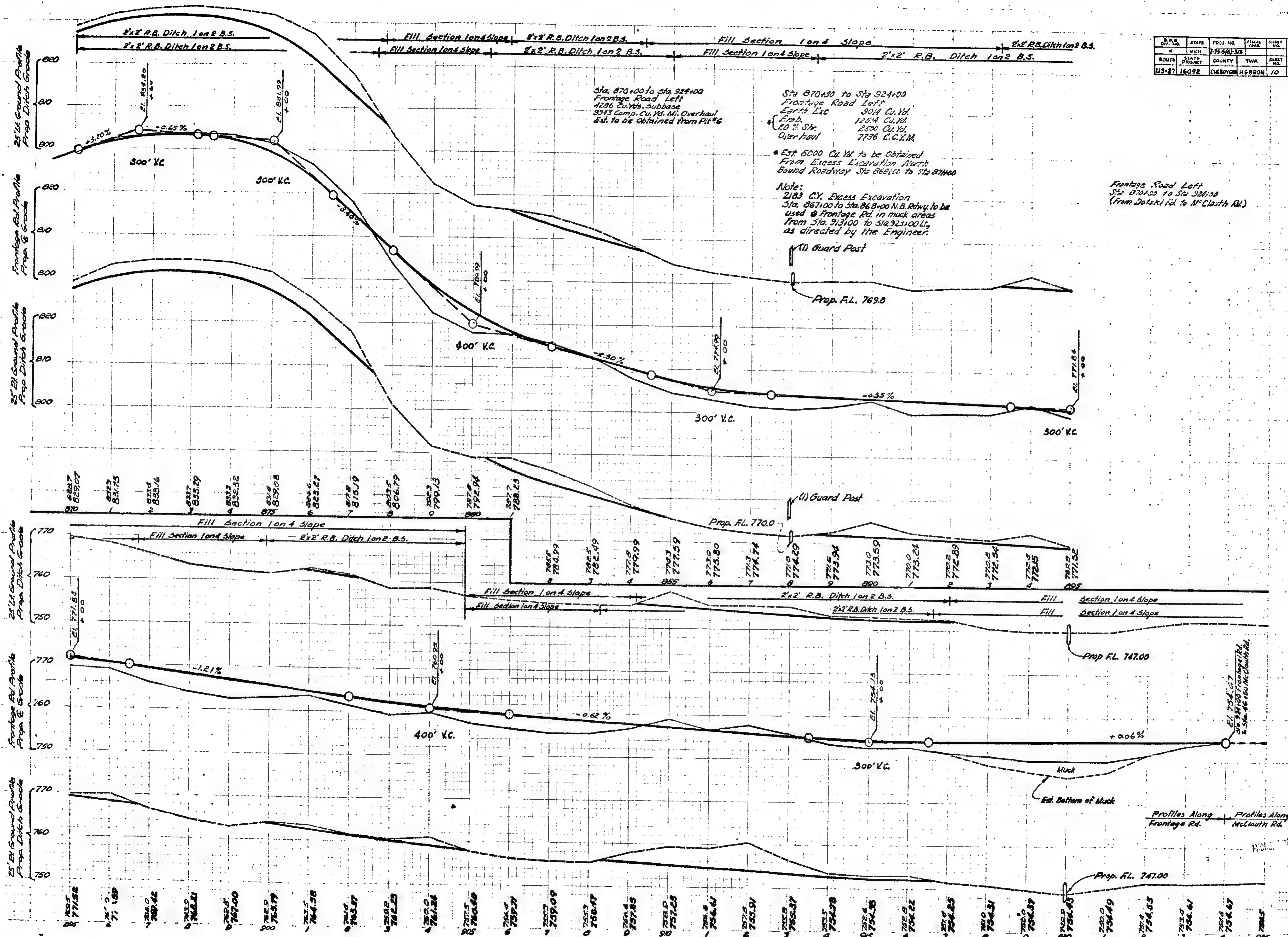
3' x 4' R.B. Ditch on 4 B.S.
Fill Section on 4 Slope
3' x 4' R.B. Ditch on 4 B.S.
Fill Section on 4 Slope
3' x 4' R.B. Ditch on 4 B.S.



Sta. 871+00 to 939+00 No. Bd.	Sta. 922+50 to 938+50 So. Bd.	Est. Excess Exc. to be used
Earth Exc.	113,760	28,123
Emb.	78,788	25/2
20% Shn.	18,760	514
Waste	16,331	24,779
Overhaul	54,916	3,600
	66,121	

W-15-1

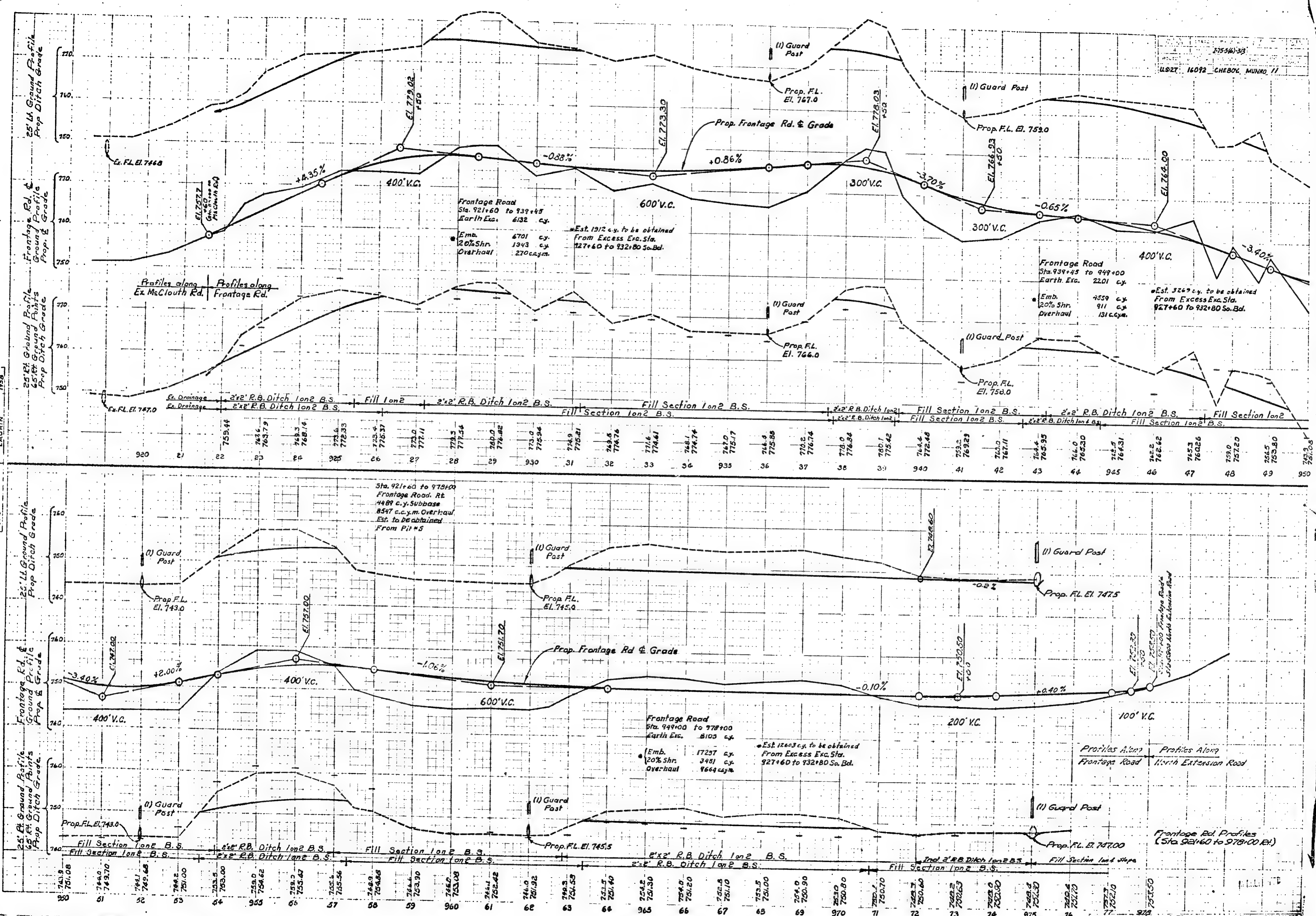
D.P. No.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH	7-75-361-3/5			
ROUTE	STATE PROJECT	COUNTY	TWR	SHEET NO.	TOTAL SHEETS
US-27	16092	CHEBOYGAN	HEBRON	70	



W-15-1

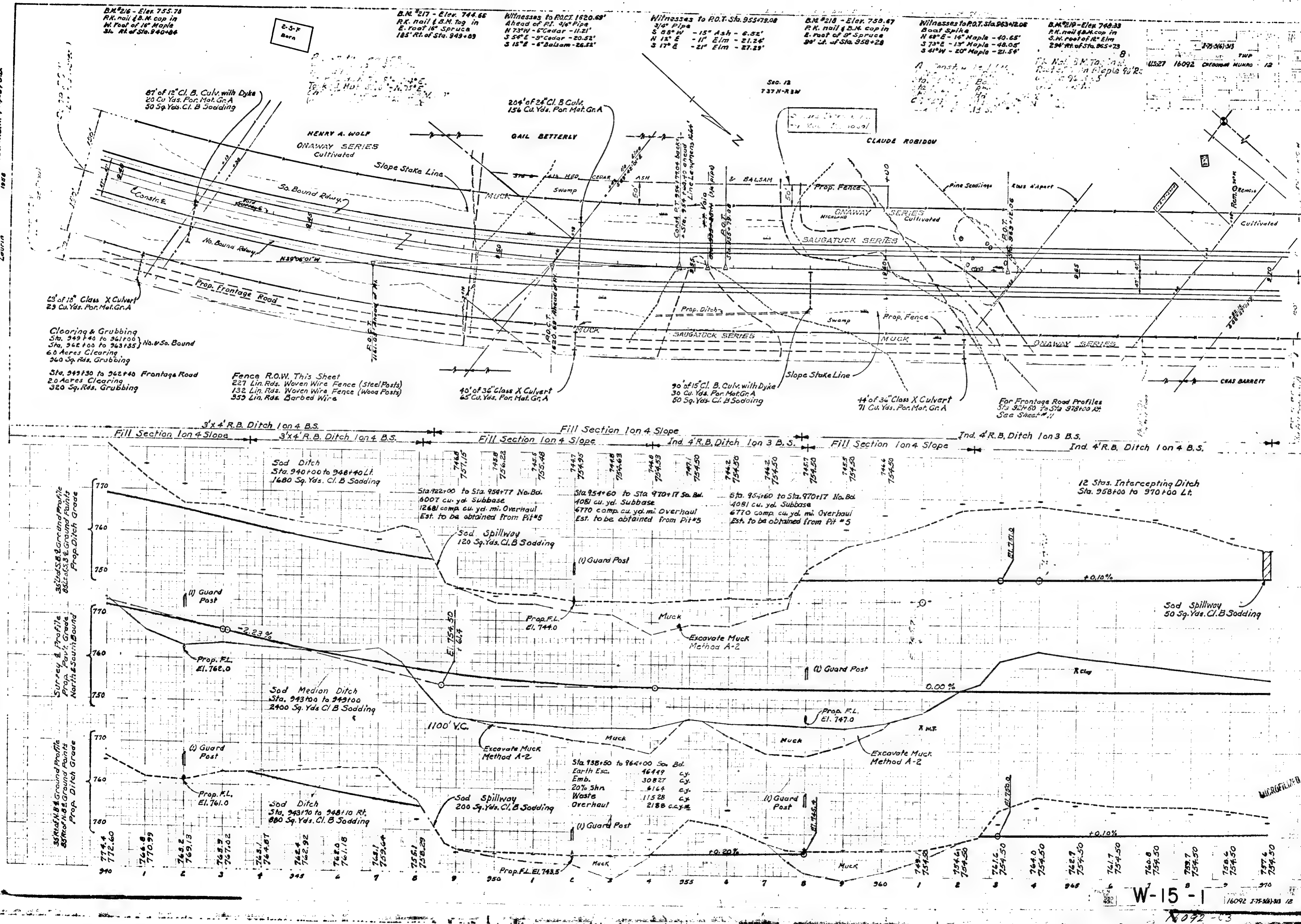
16092-C3

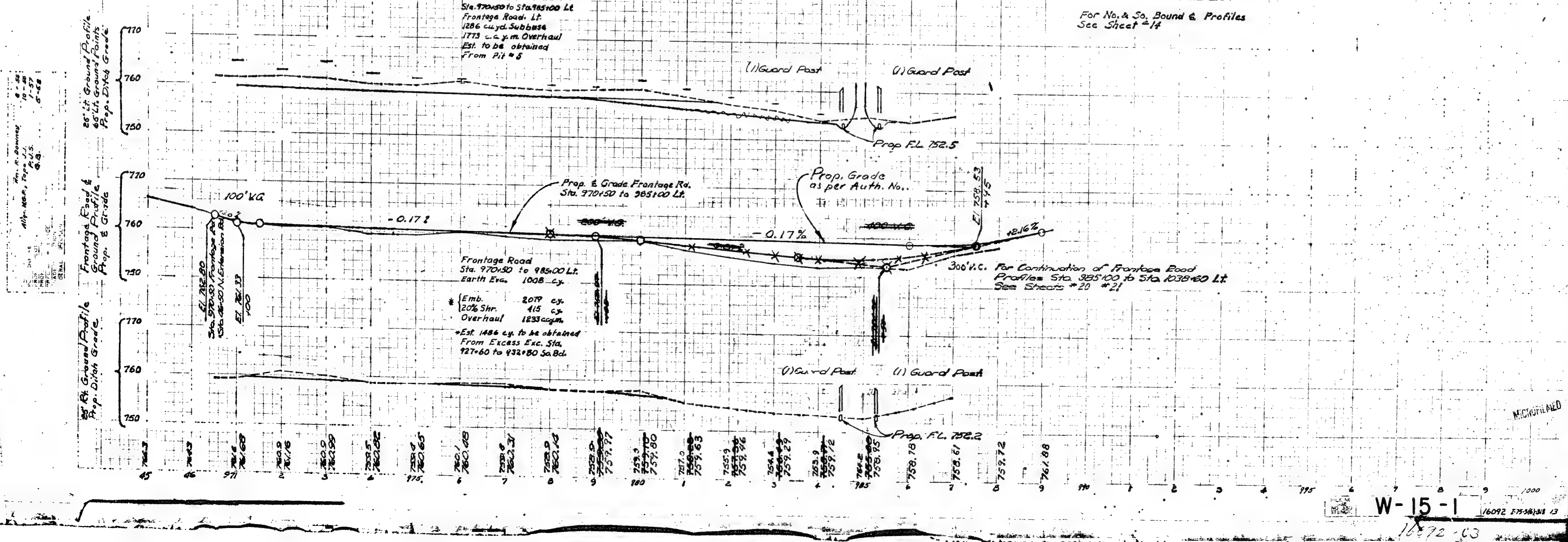
PLOTTED
 CHECKED
 1959
 LAURIN



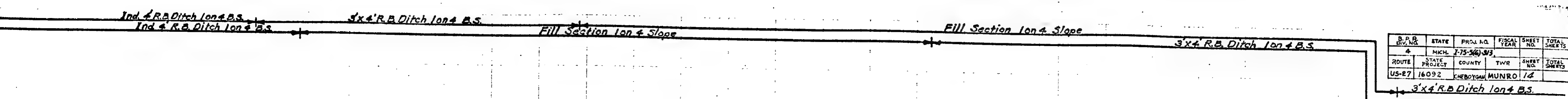
W-15-1

18042-22



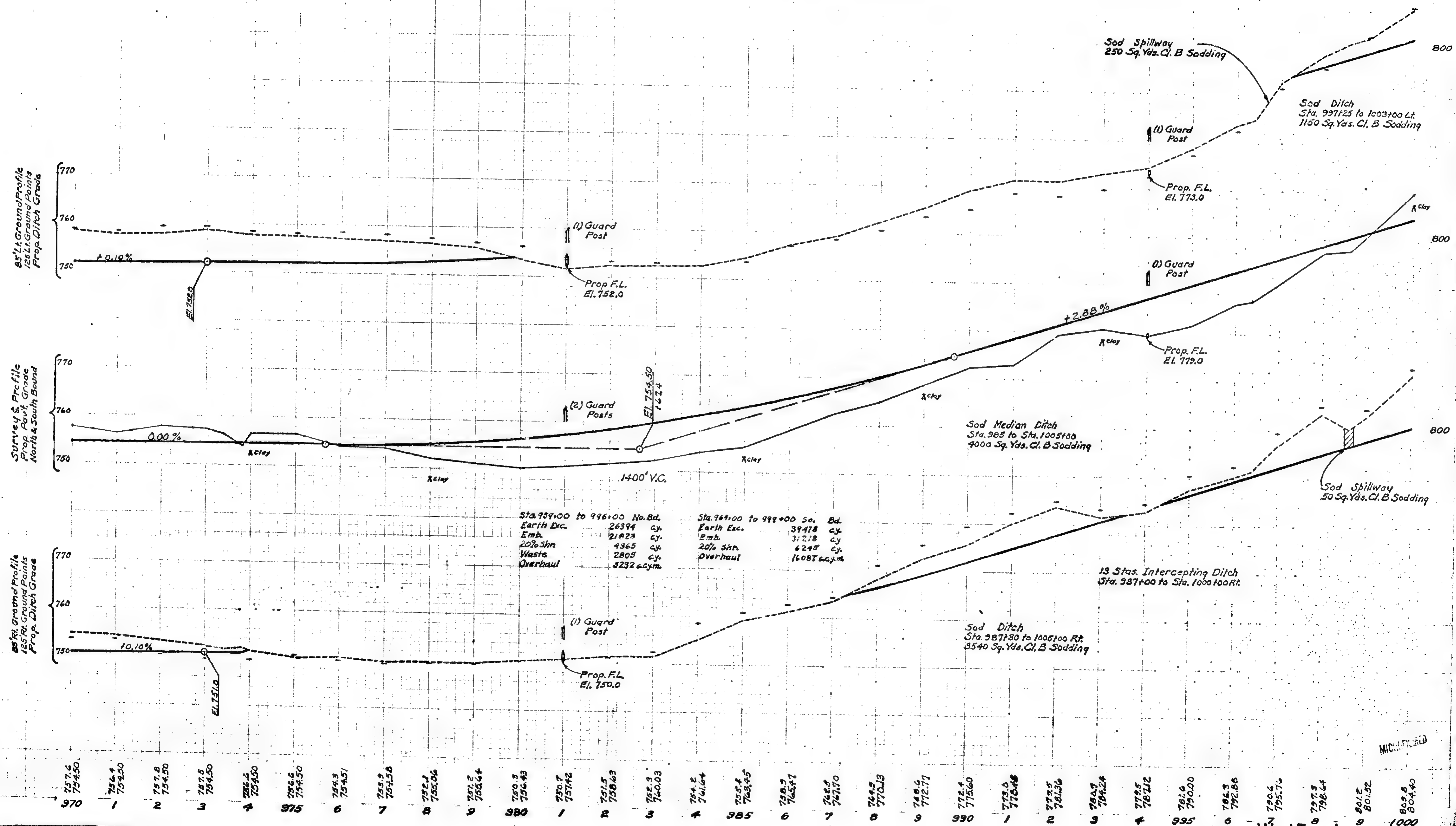


B.P.R. DIVISION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	7-75-36-393			
ROUTE	PROJECT	COUNTY	TWR	SHEET NO.	TOTAL SHEETS
US-27	16092	EMERYTOWN	MUNRO	74	



Sta. 970+17 to Sta. 997+20 So. Bd.
4955 cu. yd. Subbase
6223 comp. cu. yd. m. Overhaul
Est. to be obtained from Pit #5

Sta. 970+17 to Sta. 997+20 No. Bd.
4955 cu. yd. Subbase
6223 comp. cu. yd. m. Overhaul
Est. to be obtained from Pit #5

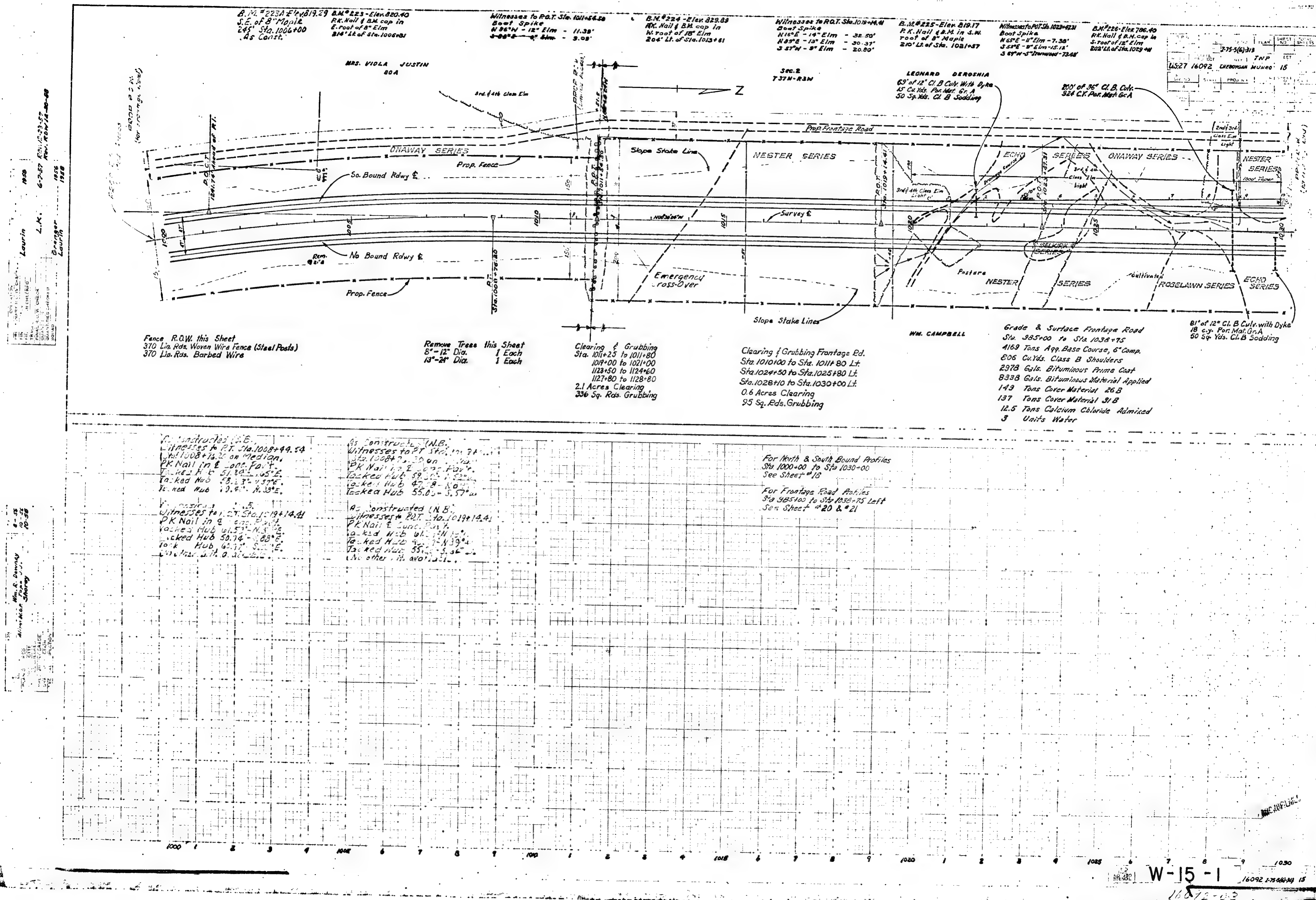


Sta. 959+00 to 996+00 No. Bd.
Earth Exc. 26394 cy.
Emb. 21823 cy.
20% Shr. 4365 cy.
Waste 2805 cy.
Overhaul 5232 acym.

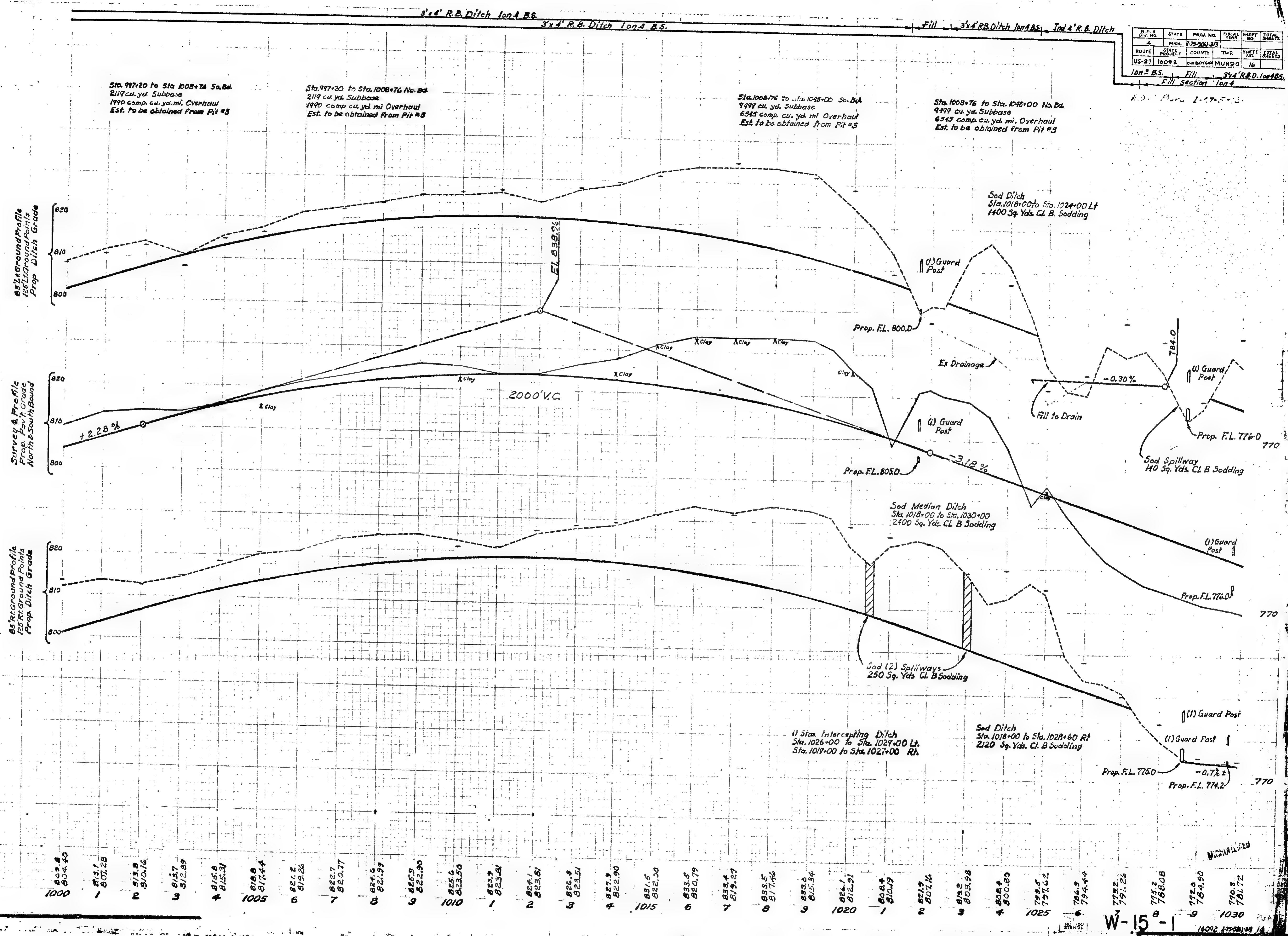
Sta. 964+00 to 999+00 So. Bd.
Earth Exc. 39478 cy.
Emb. 31218 cy.
20% Shr. 6245 cy.
Overhaul 1608T acym.

W-15-1

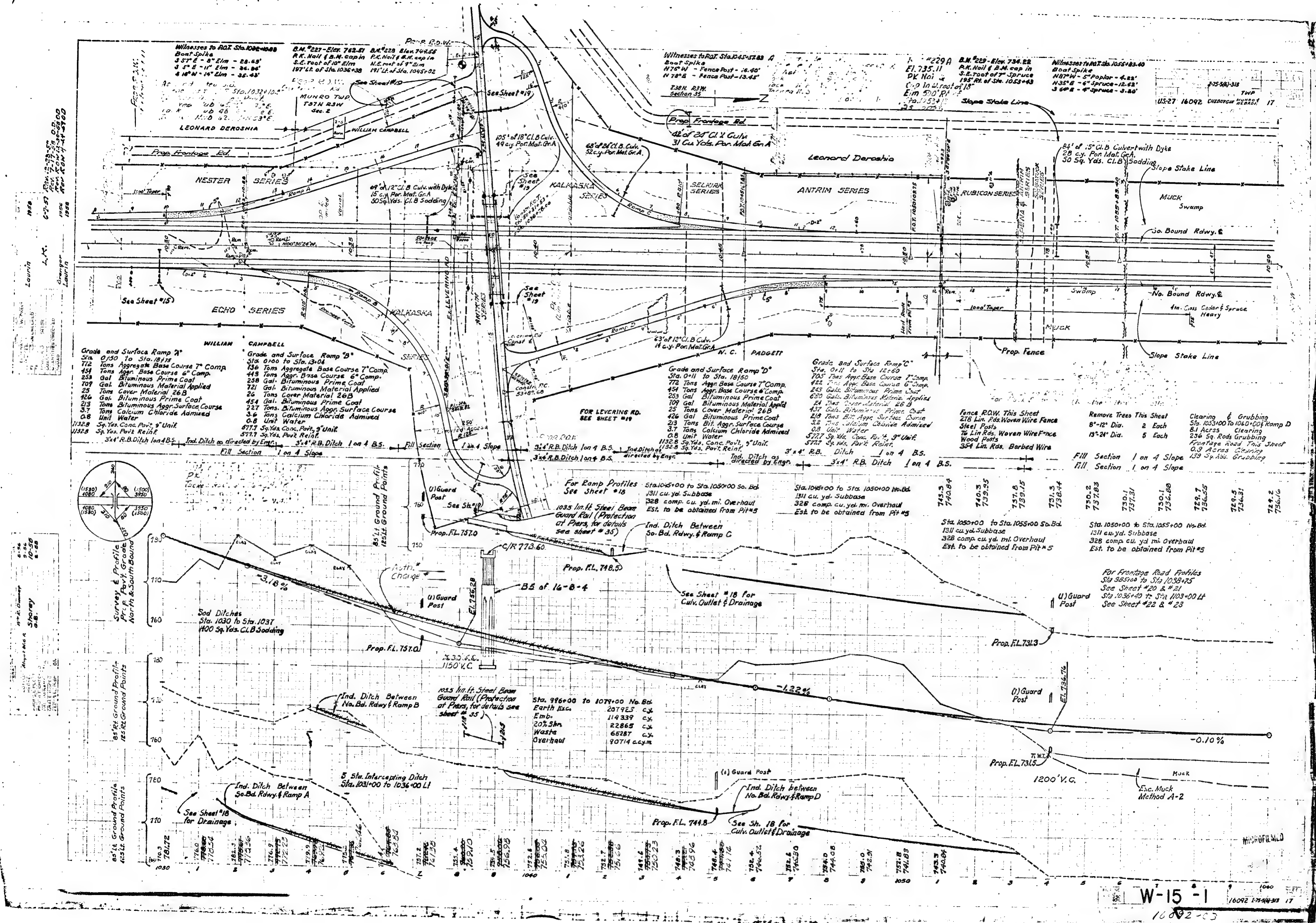
16092-03



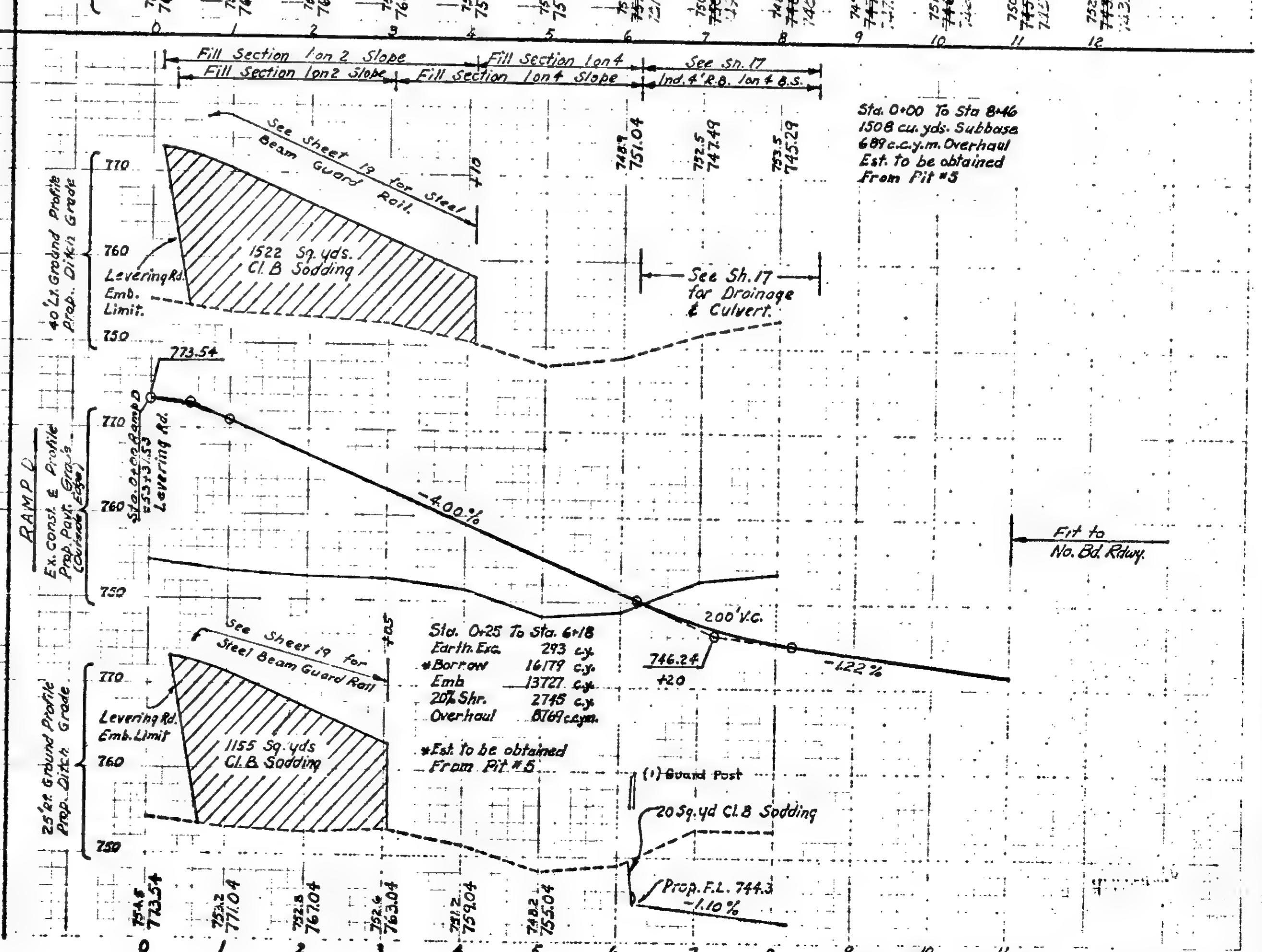
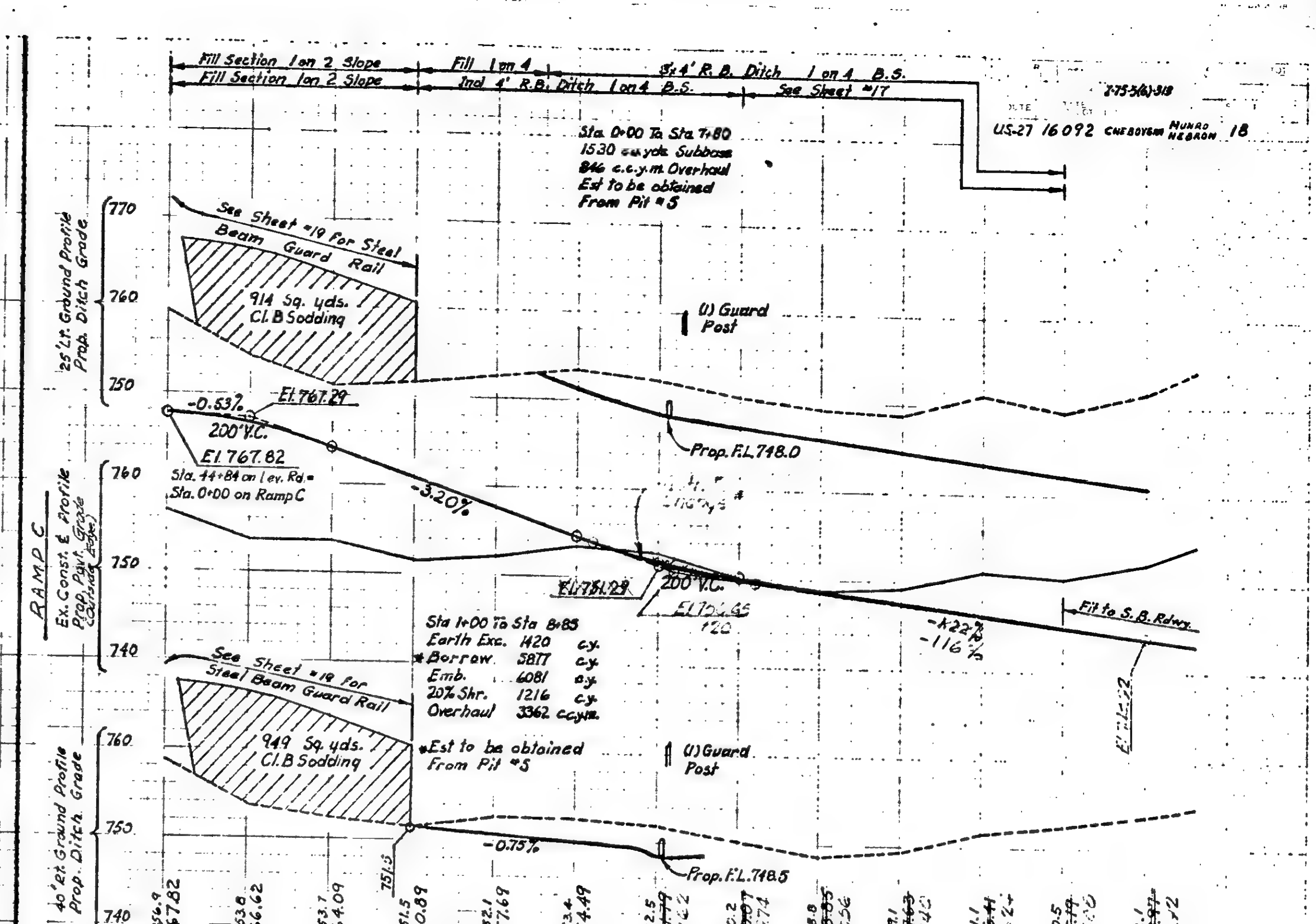
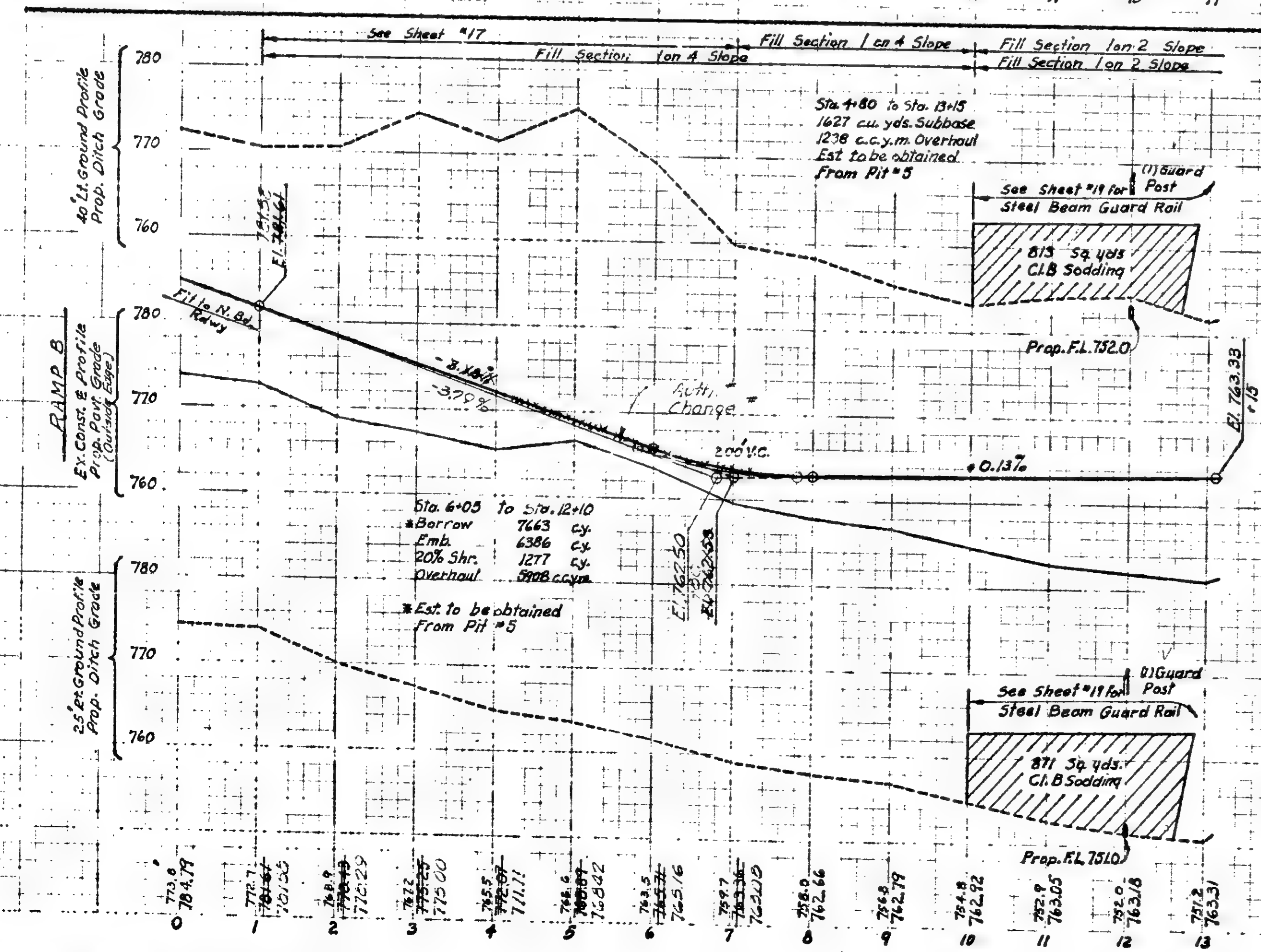
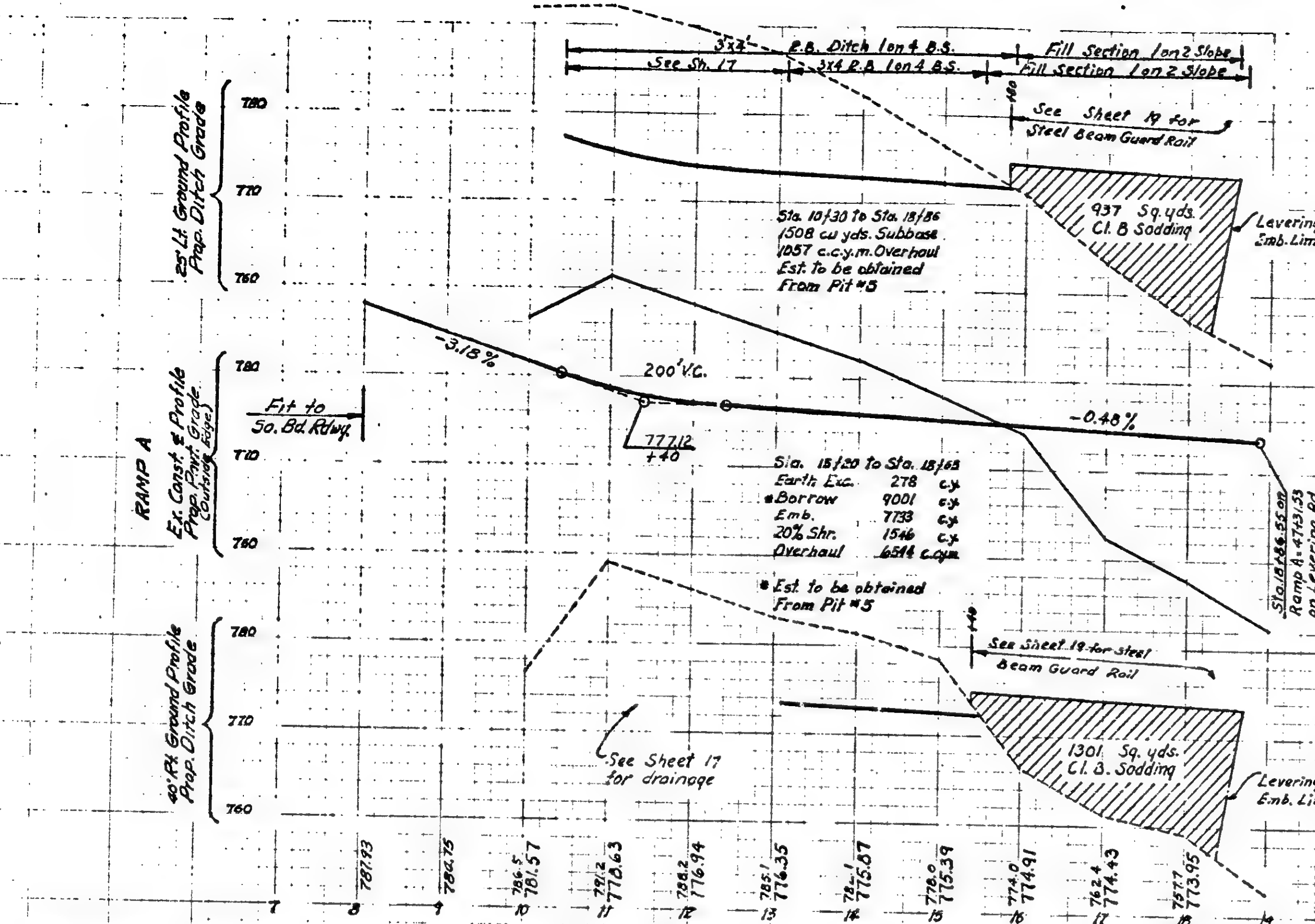
B.P. No.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MS.	275-400-33	1927	16	16
ROUTE	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS	
MS-27	CHEROKEE	MUNRO	16	16	



Wm. R. Downey
S. J. Sherry
1928



LSE
 3-58
 LAURIN
 1968



LAURIN 1958
L.A. 6-757 12-23-57
Ginger 1958
100' Lin. Ft. Bridge Appr. C&G. Det. 2
(2) Guard Posts

Place Curb & Gutter and Drainage
Structures @ 85' of 16-8-4
(See Bridge Plans for Details)
(2) Catch Basins 38 (10' deep or less)
(2) 12" Class B Culvert
87' of 18" Corrugated Metal Pipe
(2) Outlet Headwalls, Det. 2
4 Cu. Yds. Plain Rip-Rap
34 Lin. Ft. Curb and Gutter, Det. 12A
100' Lin. Ft. Bridge Appr. C&G. Det. 2
(2) Guard Posts

Grade and Surface Cross Road
Sta. 39+00 to Sta. 44+00
1302 cu. yds. Subbase
835 cu. yds. Overhaul
Est. to be obtained
From Pit #5

Remove trees this sheet
8-12" Dia 10 each
13-24" Dia 4 each
25-36" Dia 1 each
Grade & Surf Temp. Connection
as Directed by the Engineer
200 C.Y. Emb.
400 tons Agg. Base Course

LEONARD DEROSNIA

Curve Data
Δ = 72° 24' 14"
D = 133.7' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

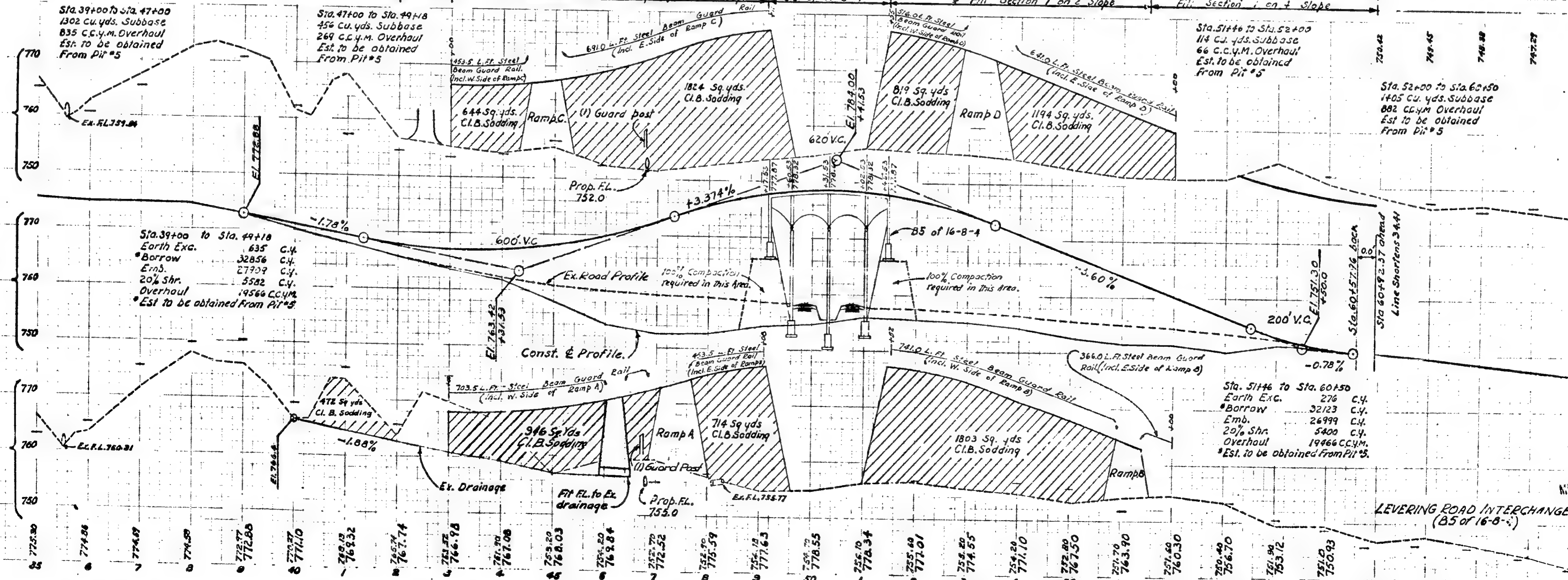
Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

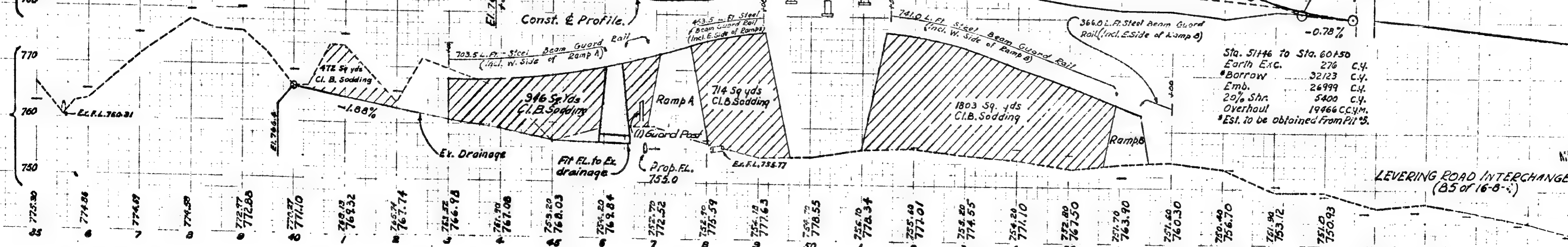
Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

Curve Data
Δ = 26° 53' 52"
D = 140.0' (Chord Def)
R = 432.80'
T = 249.46'
E = 8.14'
L = 496.29'
PC = 37+45.25
PT = 42+34.71
PI = 40+00.00
Superelevation 0.06/ft
300' Transition
about Left Edge

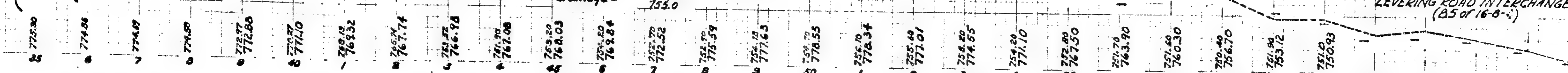
50' A.M. Ground Profile
100' L.H. Ground Points



Const. & Profile
Ex. Road Profile
Prop. & Grade

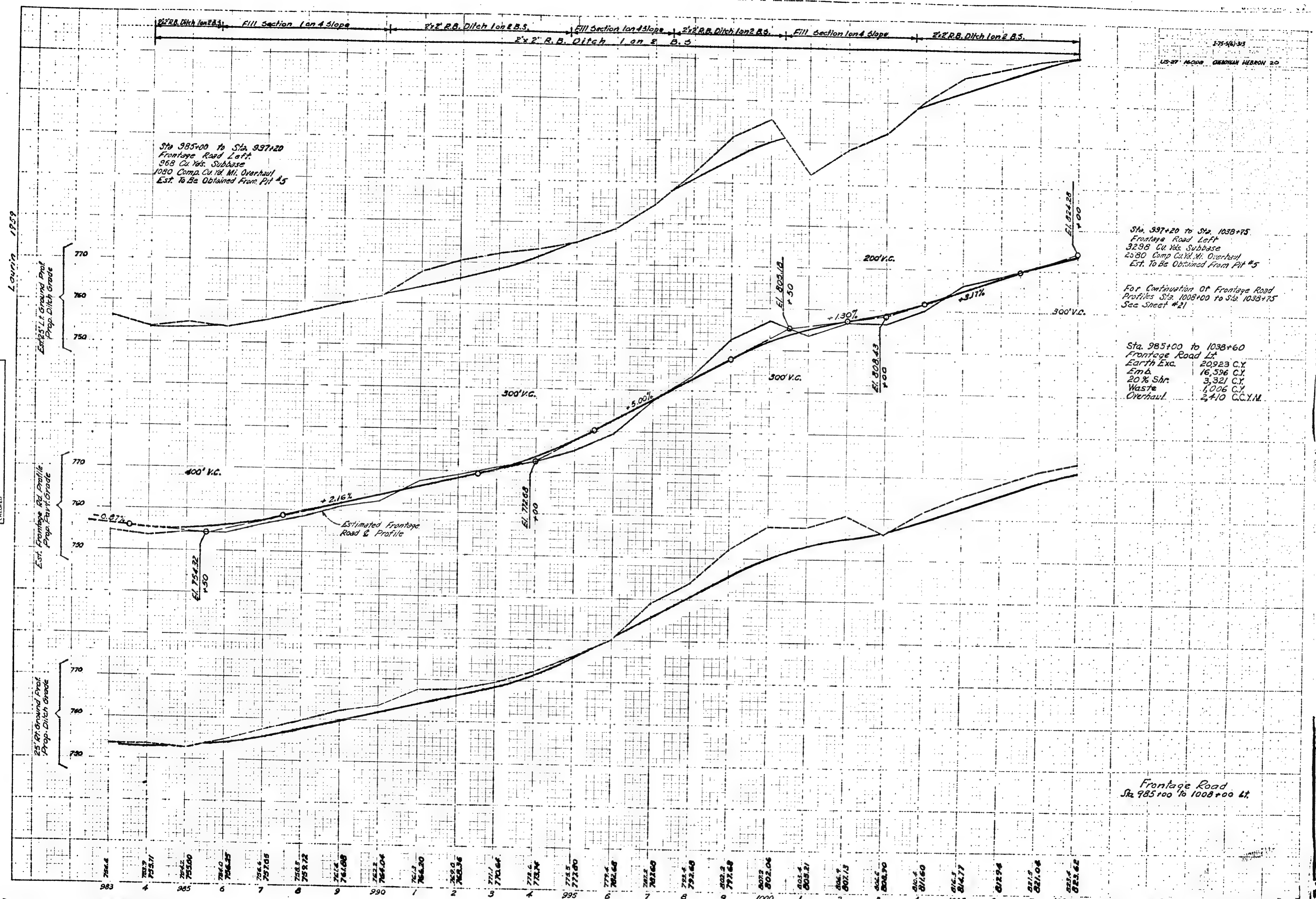


30' A.M. Ground Profile
100' L.H. Ground Points



W-15-1

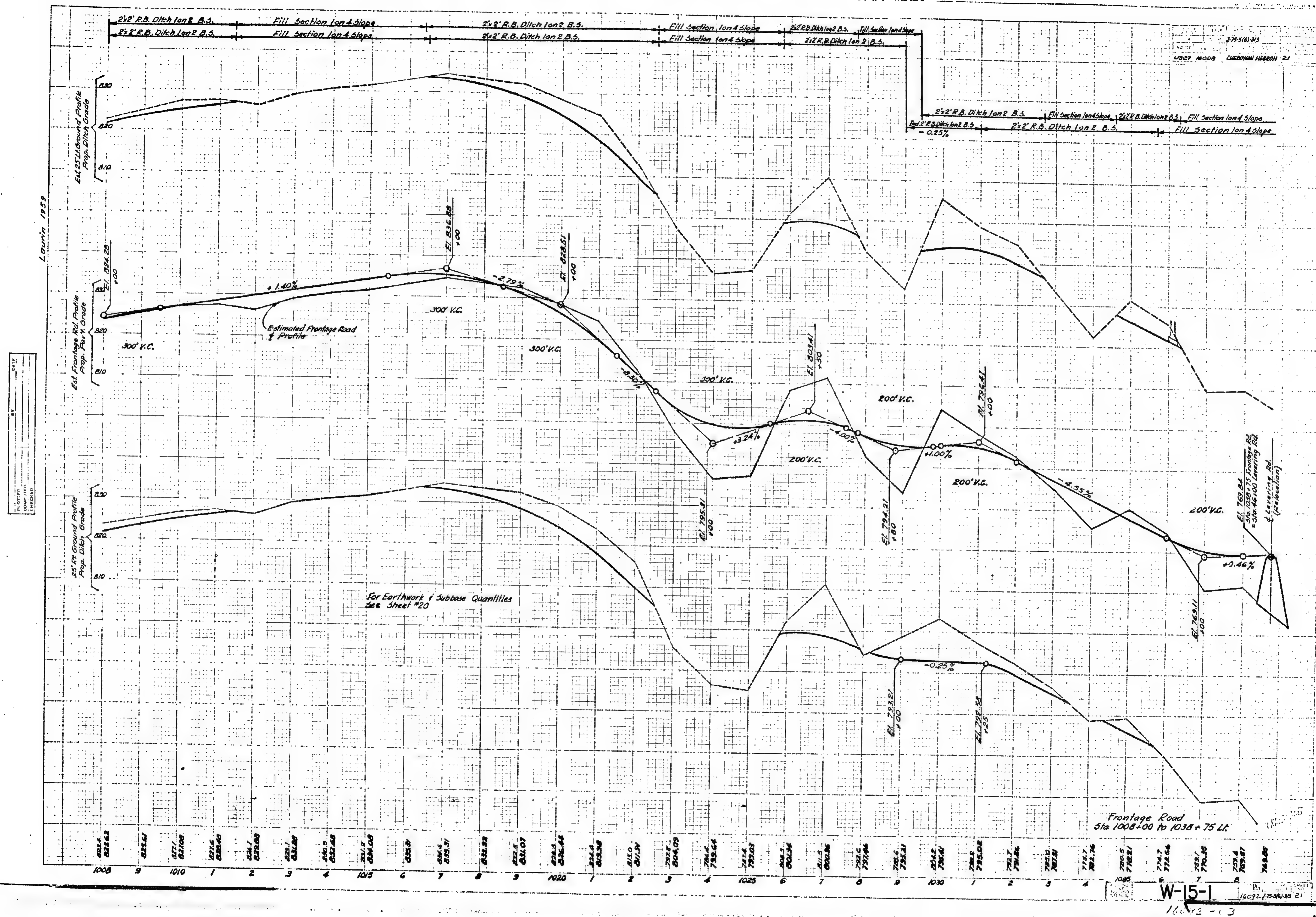
16092-75-500-33 19

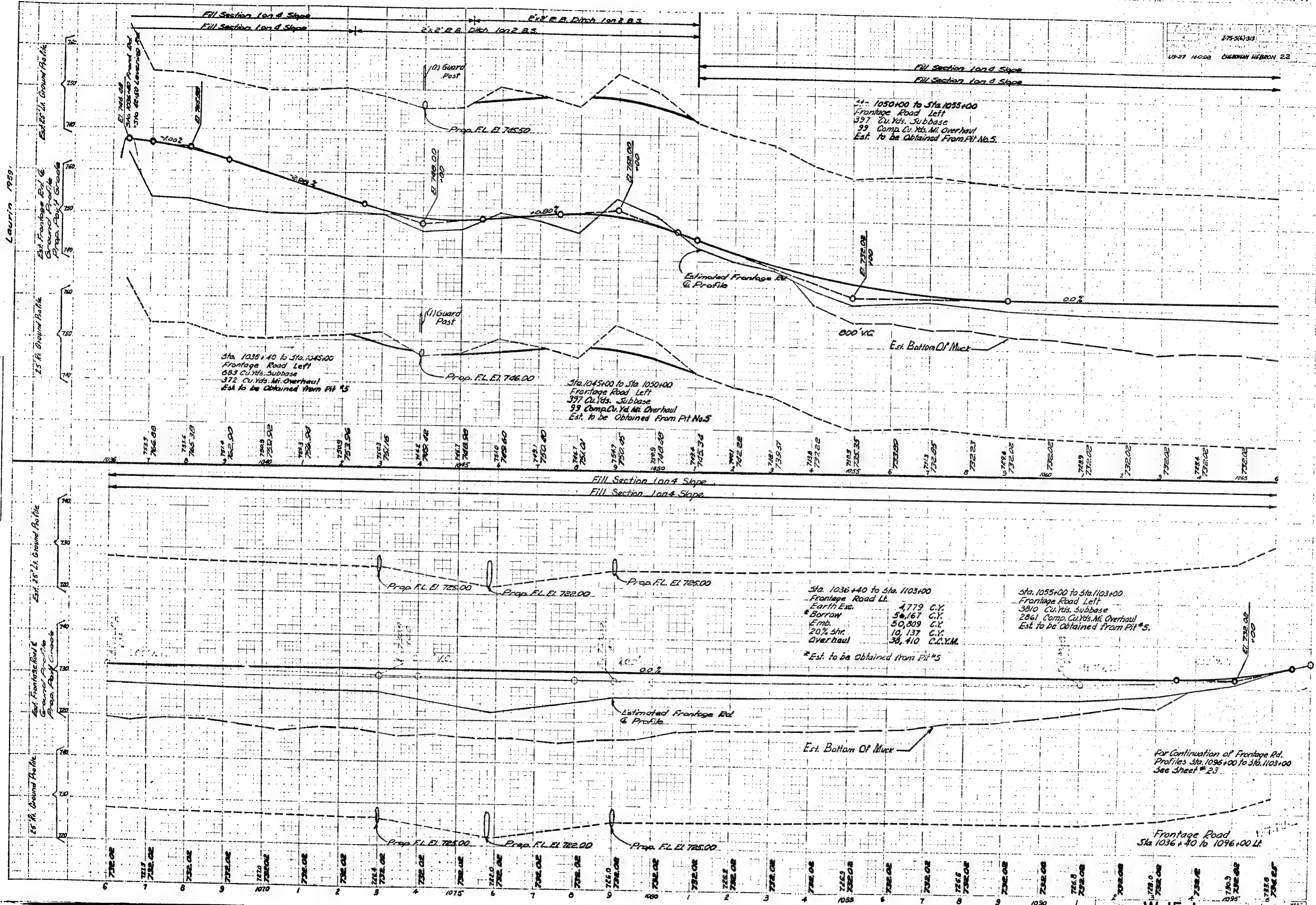


PLOTTED
 CHECKED
 DATE

W-15-1

16012 175-00-20 20

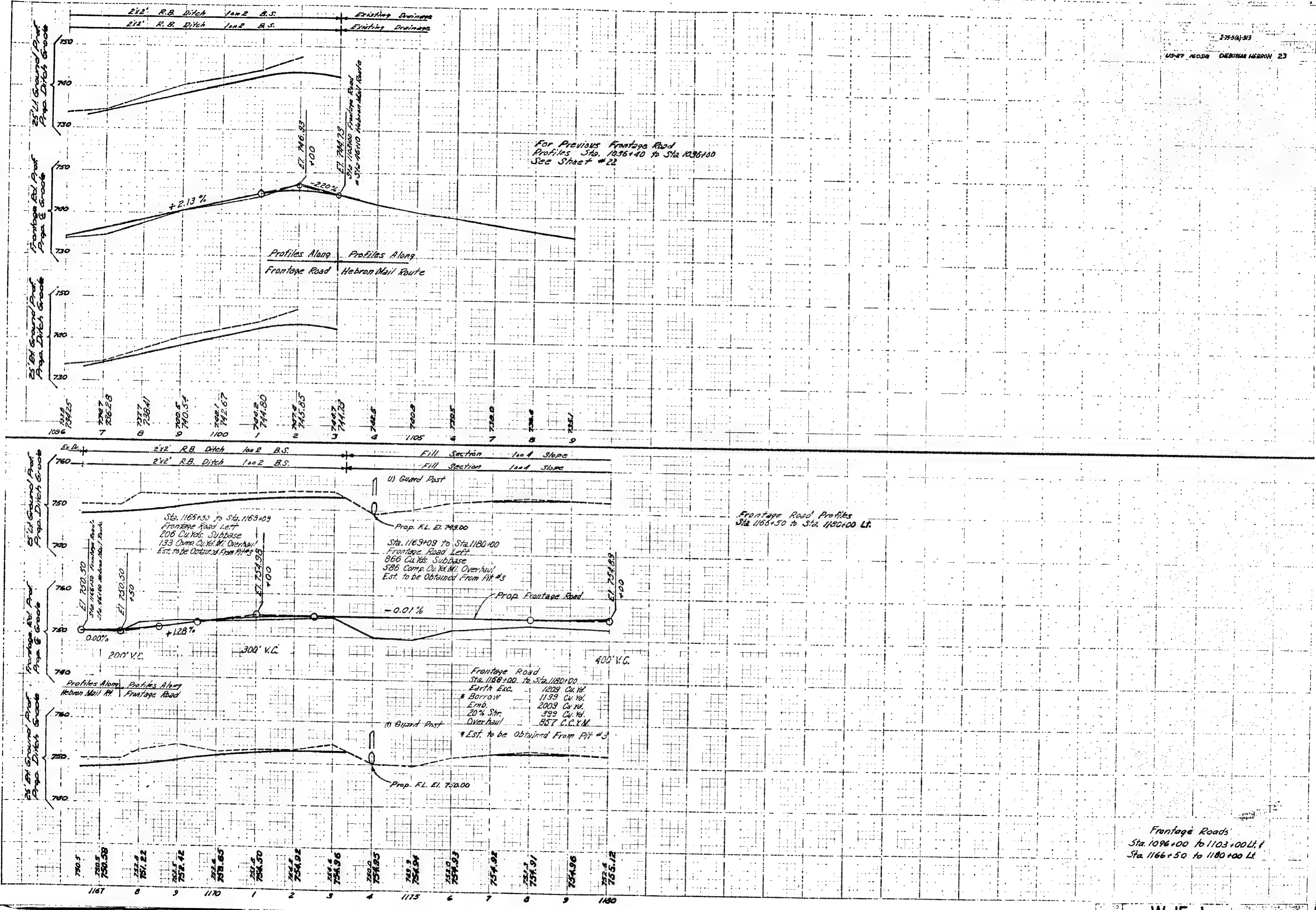




LAUREN 1959

PROJ. NO. 1096
SHEET NO. 23
DATE 10/15/59

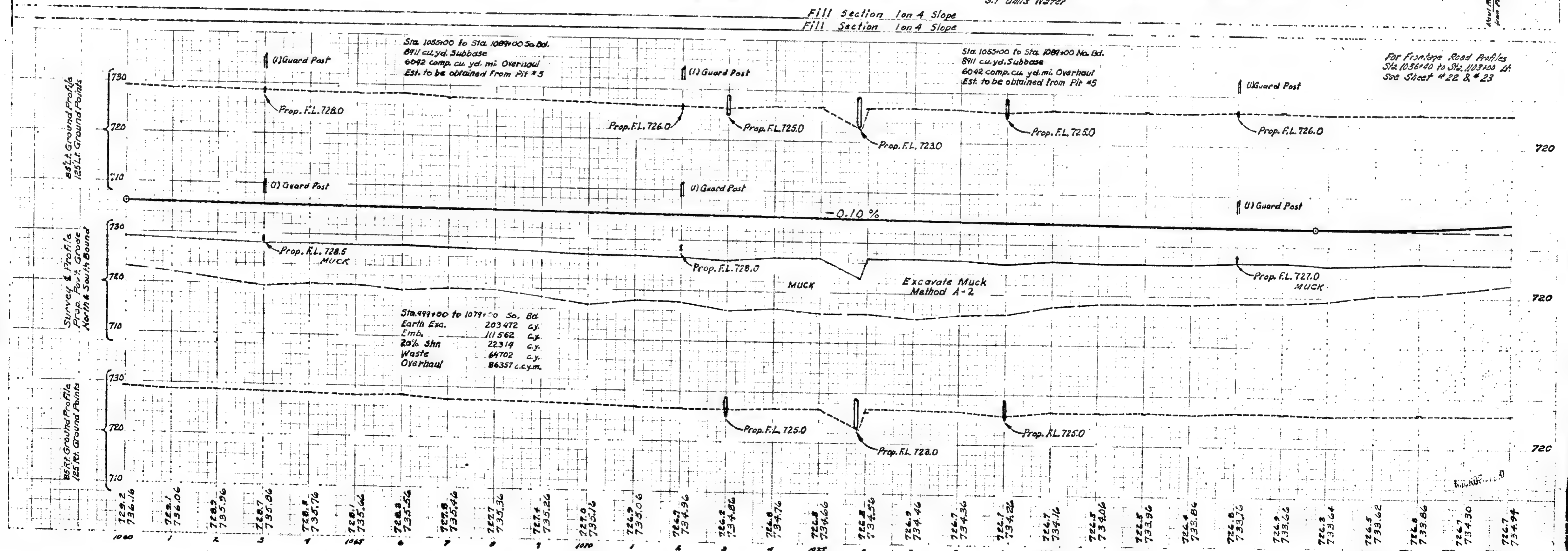
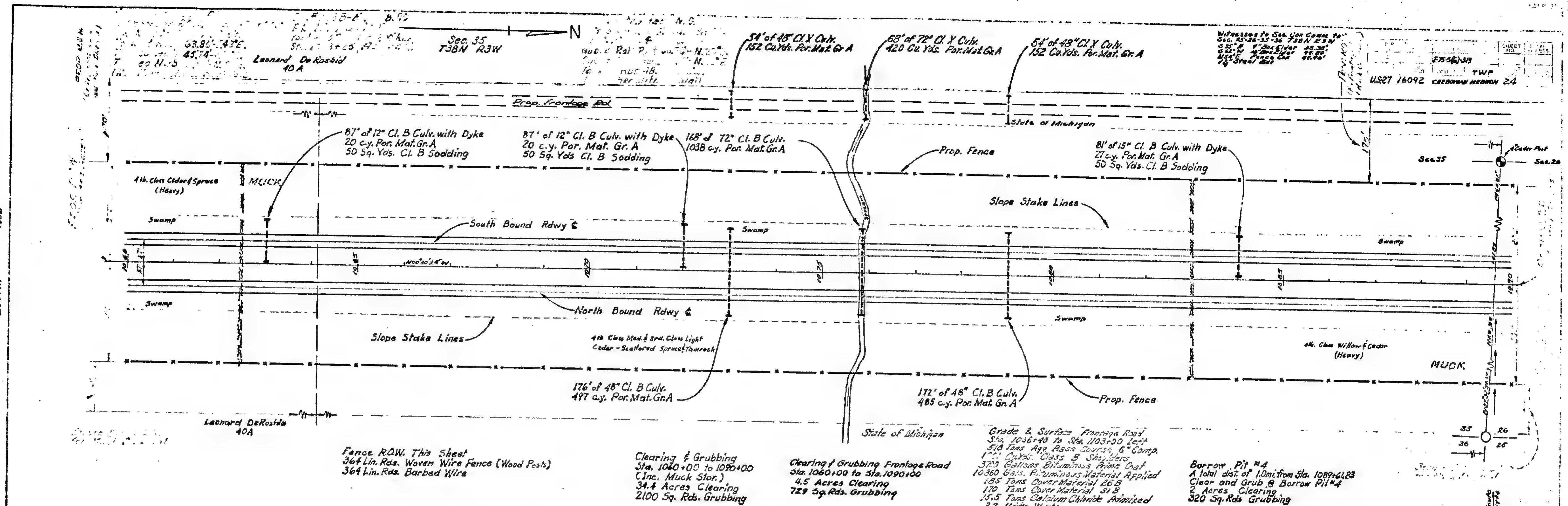
275(4)33
1096-23
HEBRON HEBRON 23



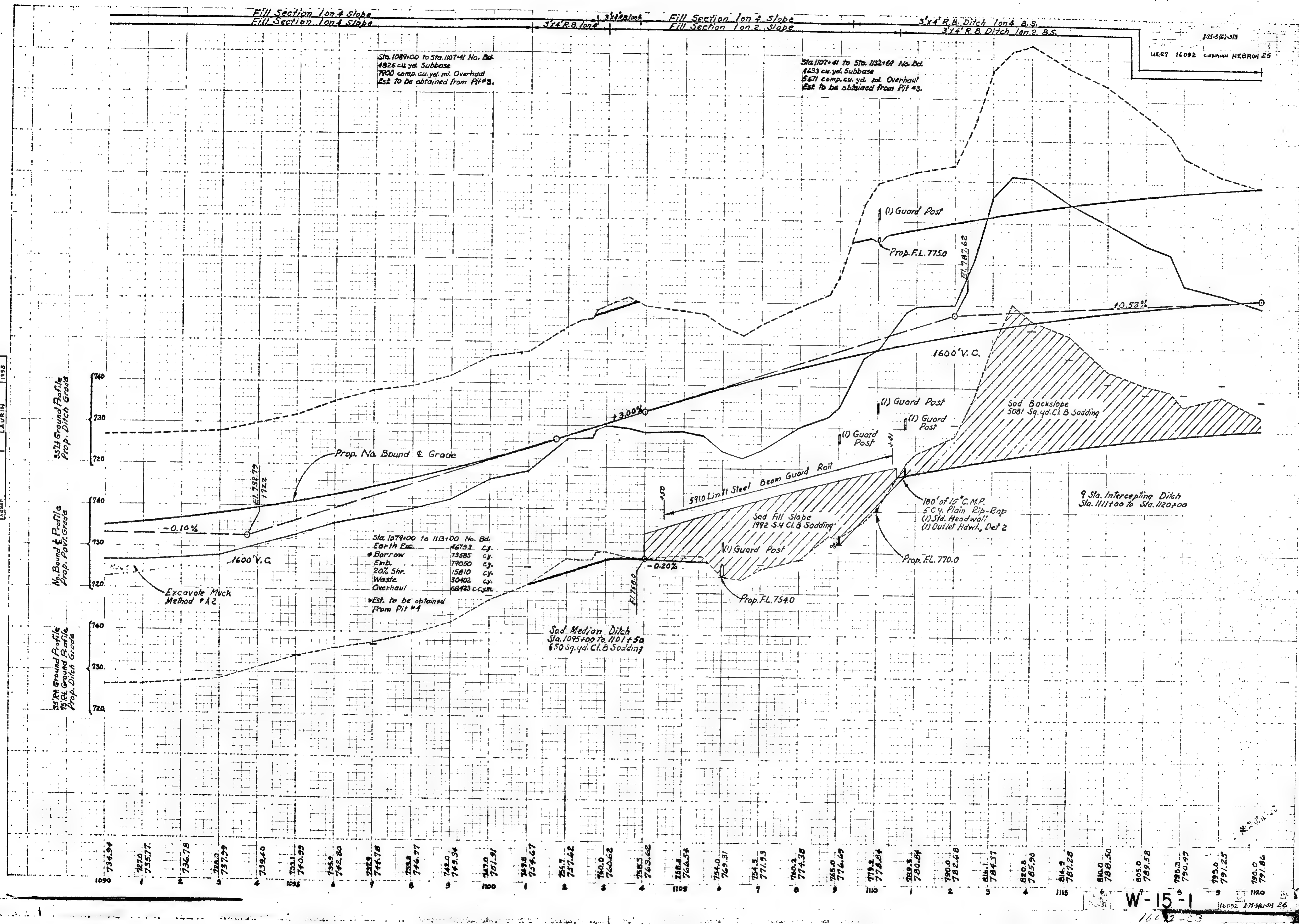
Frontage Roads
Sta. 1096+00 to 1103+00 L.H.
Sta. 1166+50 to 1180+00 L.H.

W-15-1

16072-175-4139 23

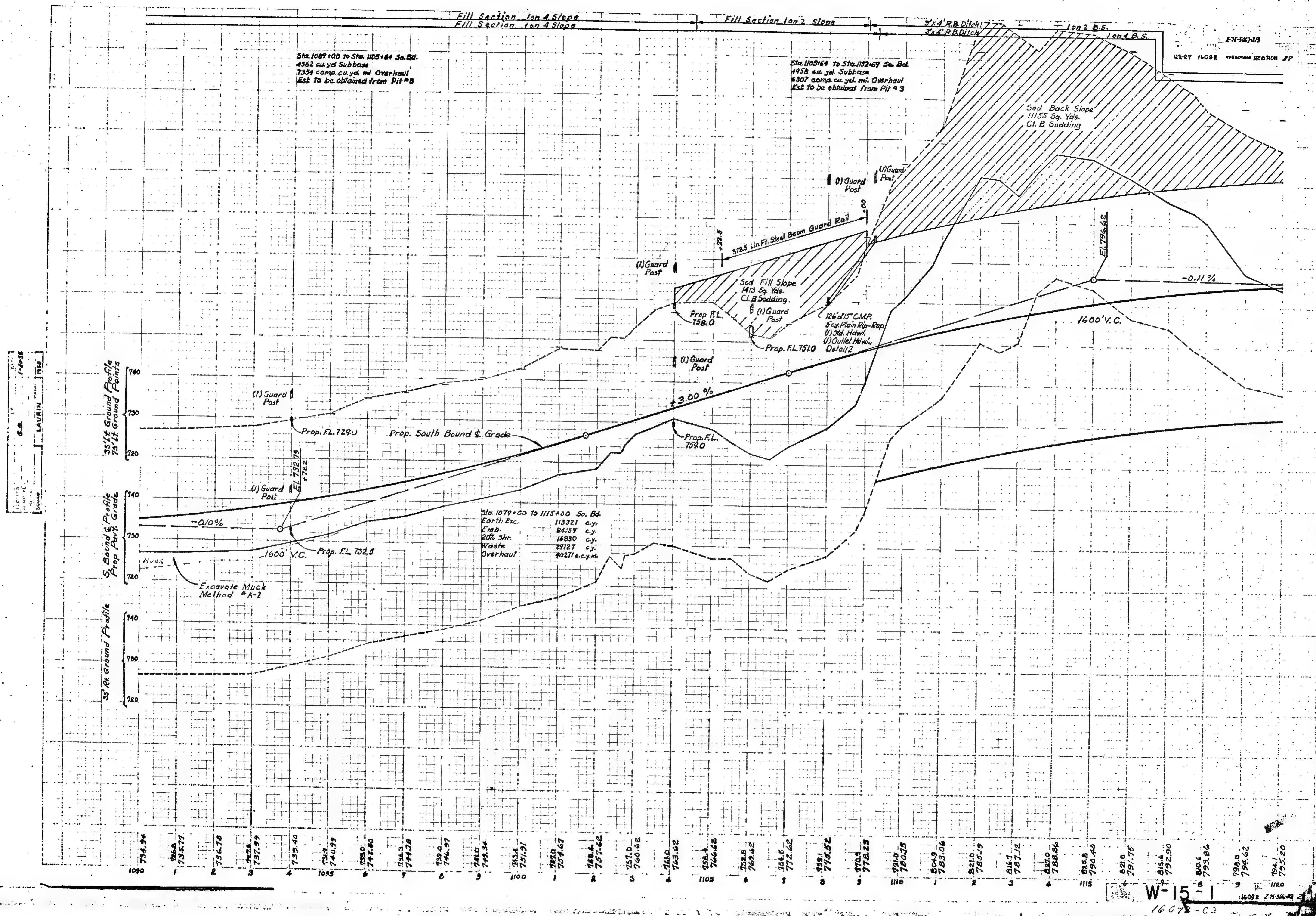


PLAN
 G.B.
 1. 10/20/28
 1928



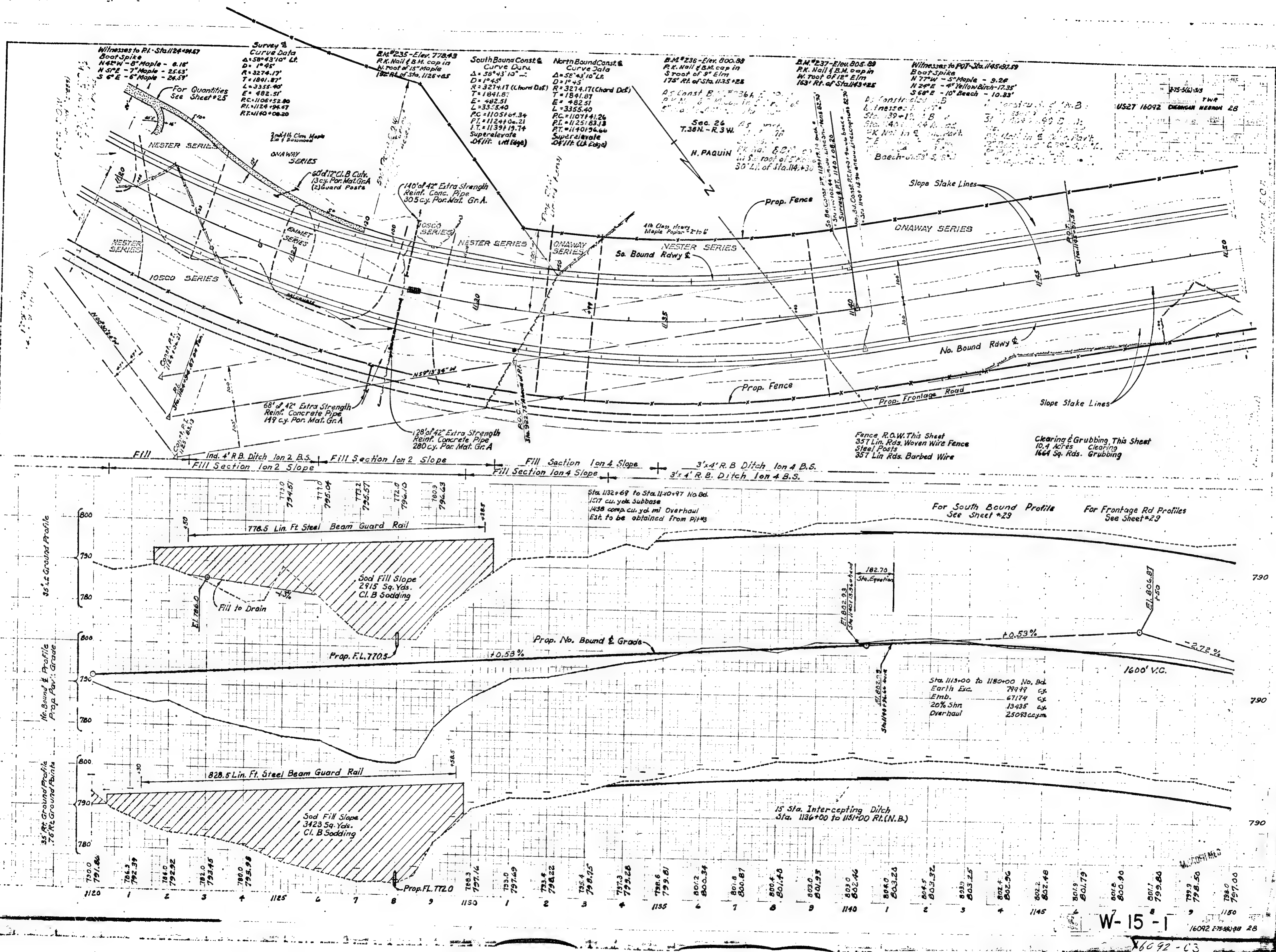
W-15-1

16092 175-161-18 26

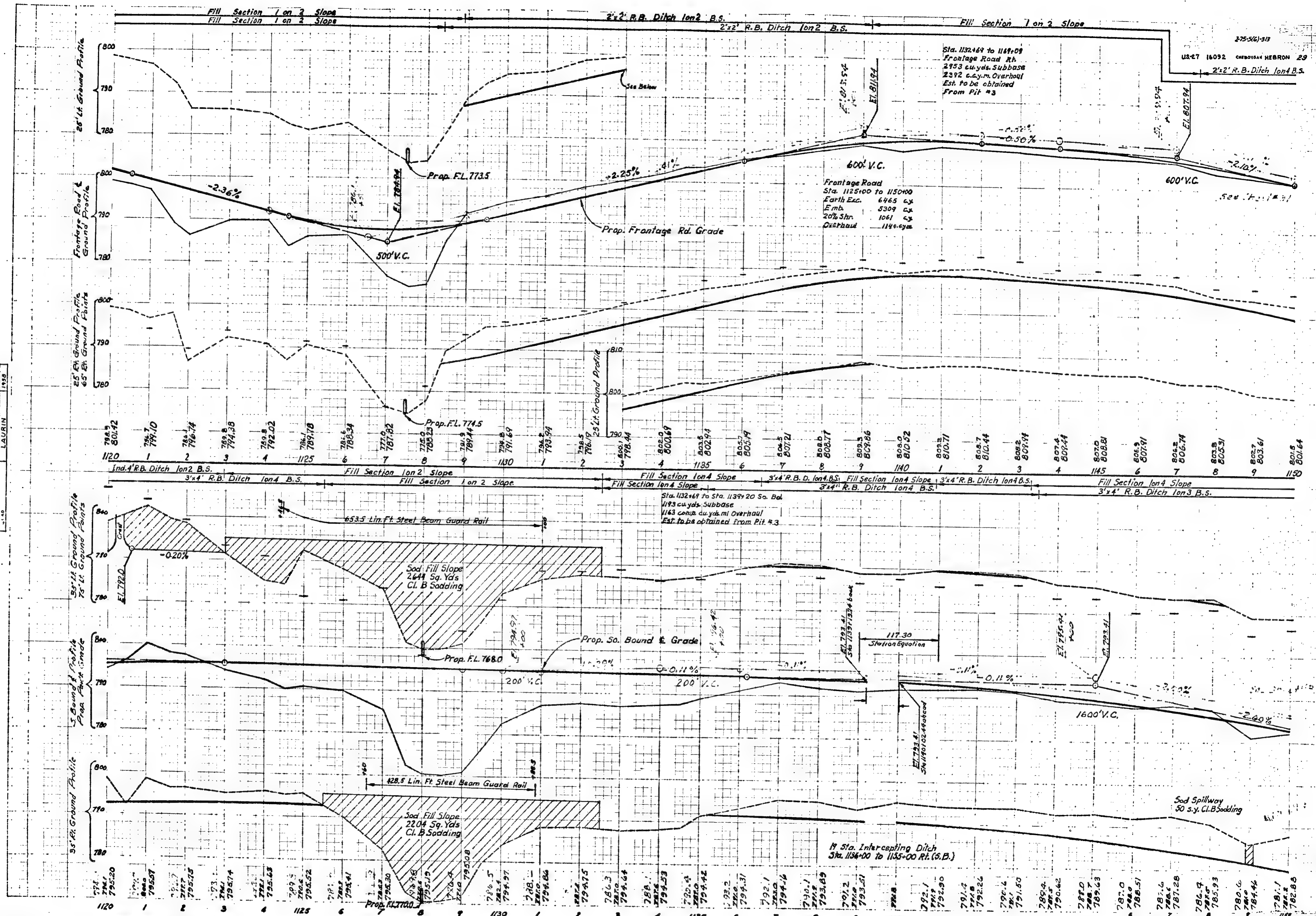


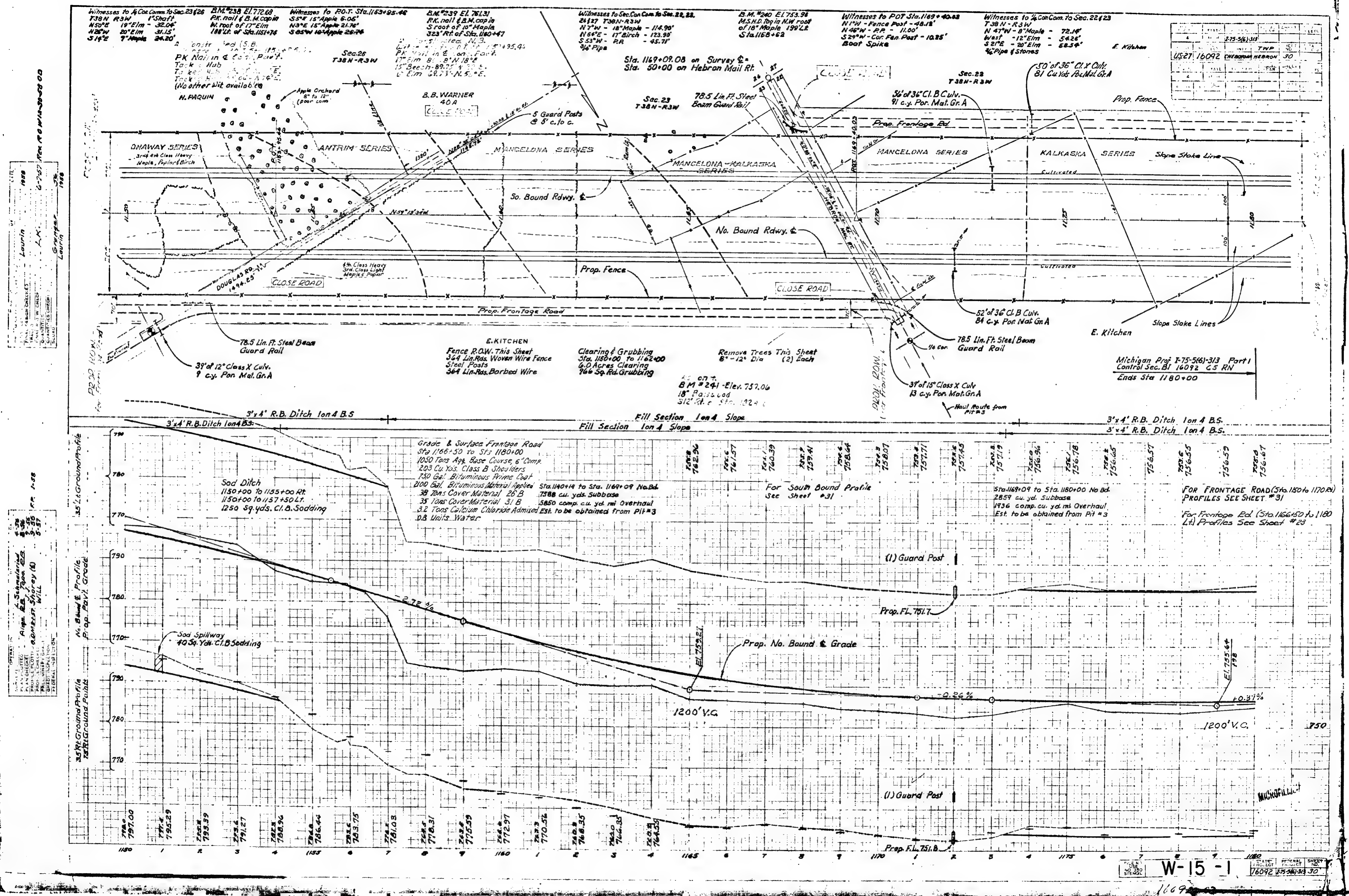
Wm. R. Downey 8-58
 1958
 L.K. 6-7-57 R&H 4-9-58
 Granger 1958
 Laurin

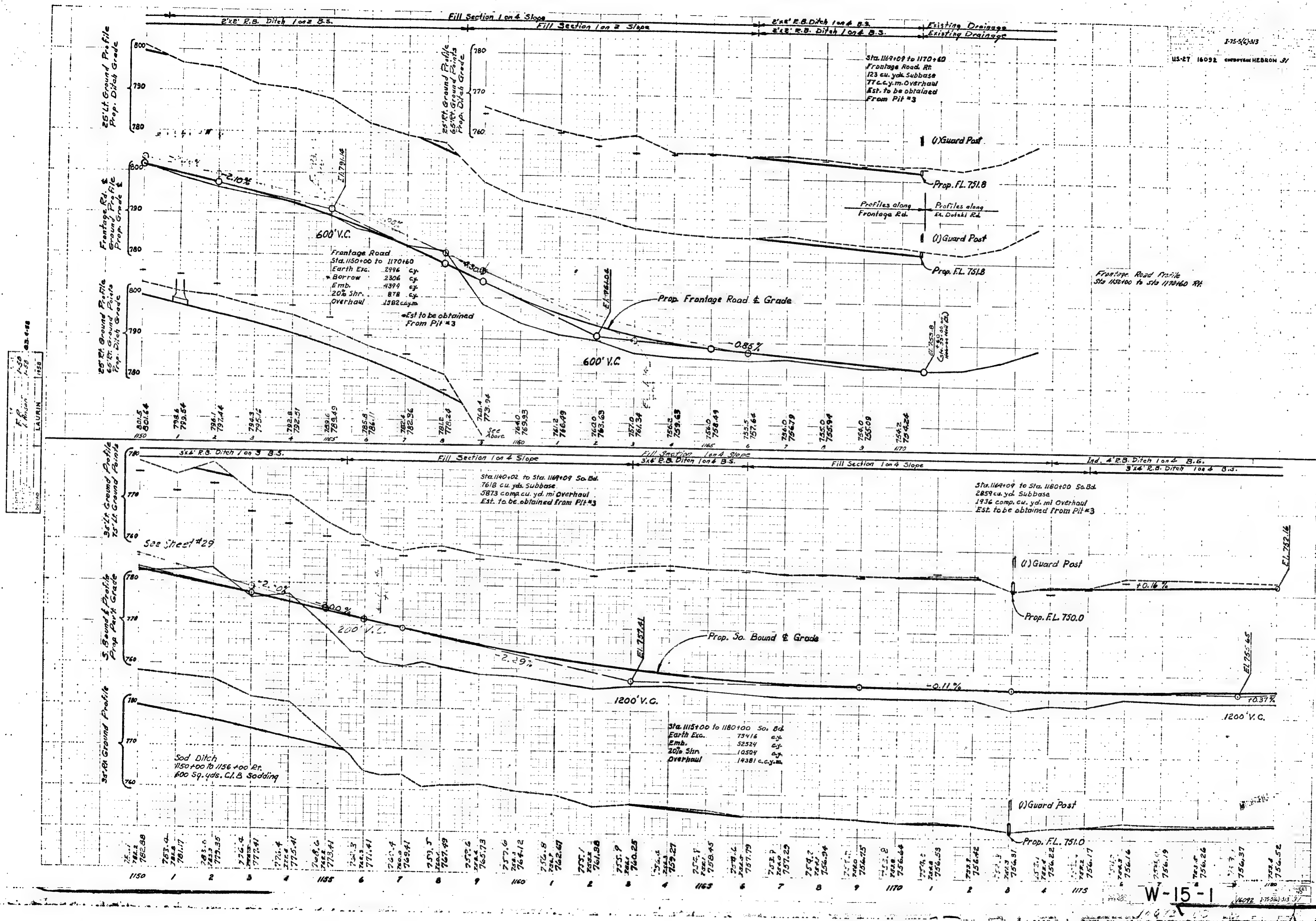
Wm. R. Downey 8-58
 1958
 L.K. 6-7-57 R&H 4-9-58
 Granger 1958
 Laurin



1-59
 L. H. LAURIN
 1-59



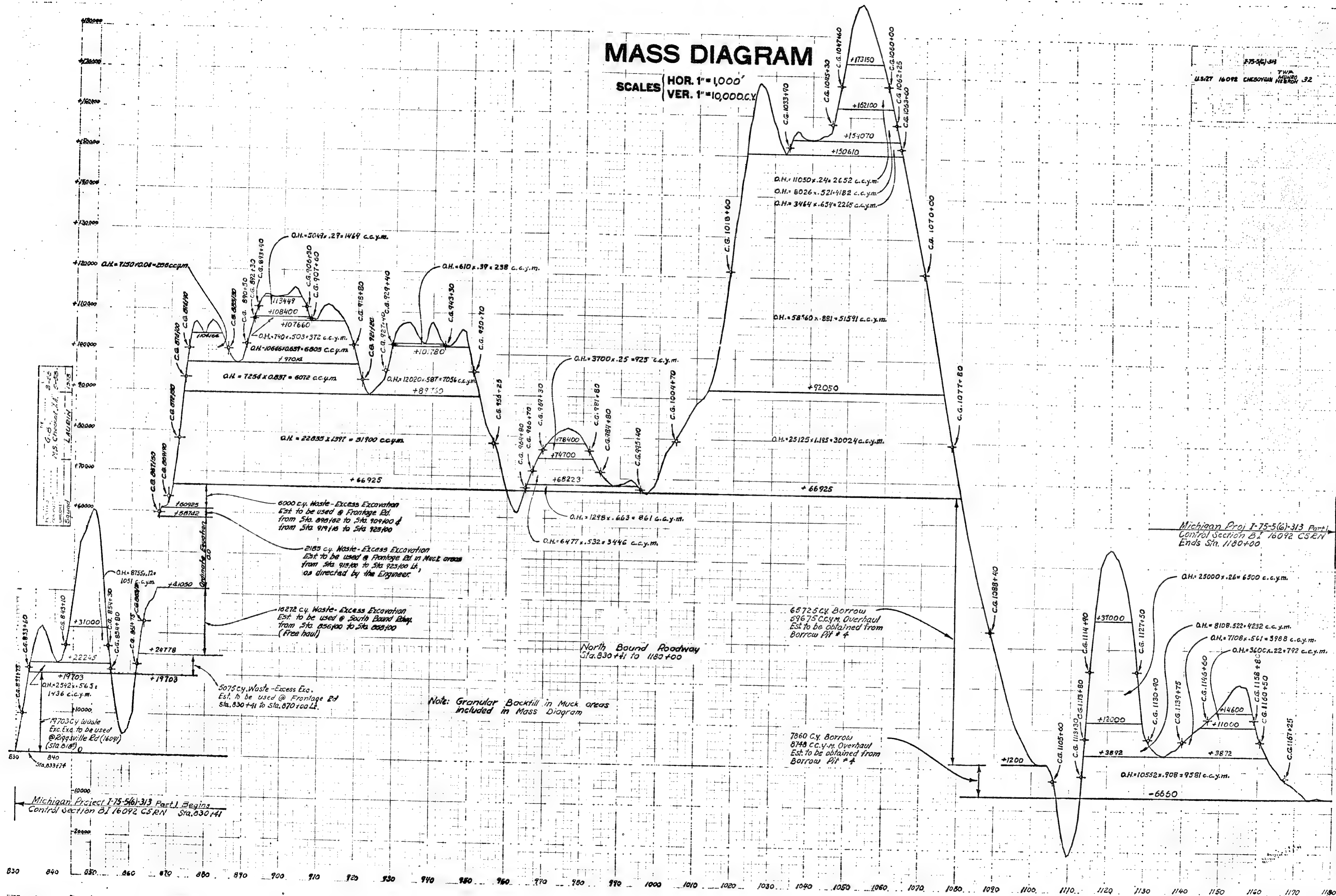




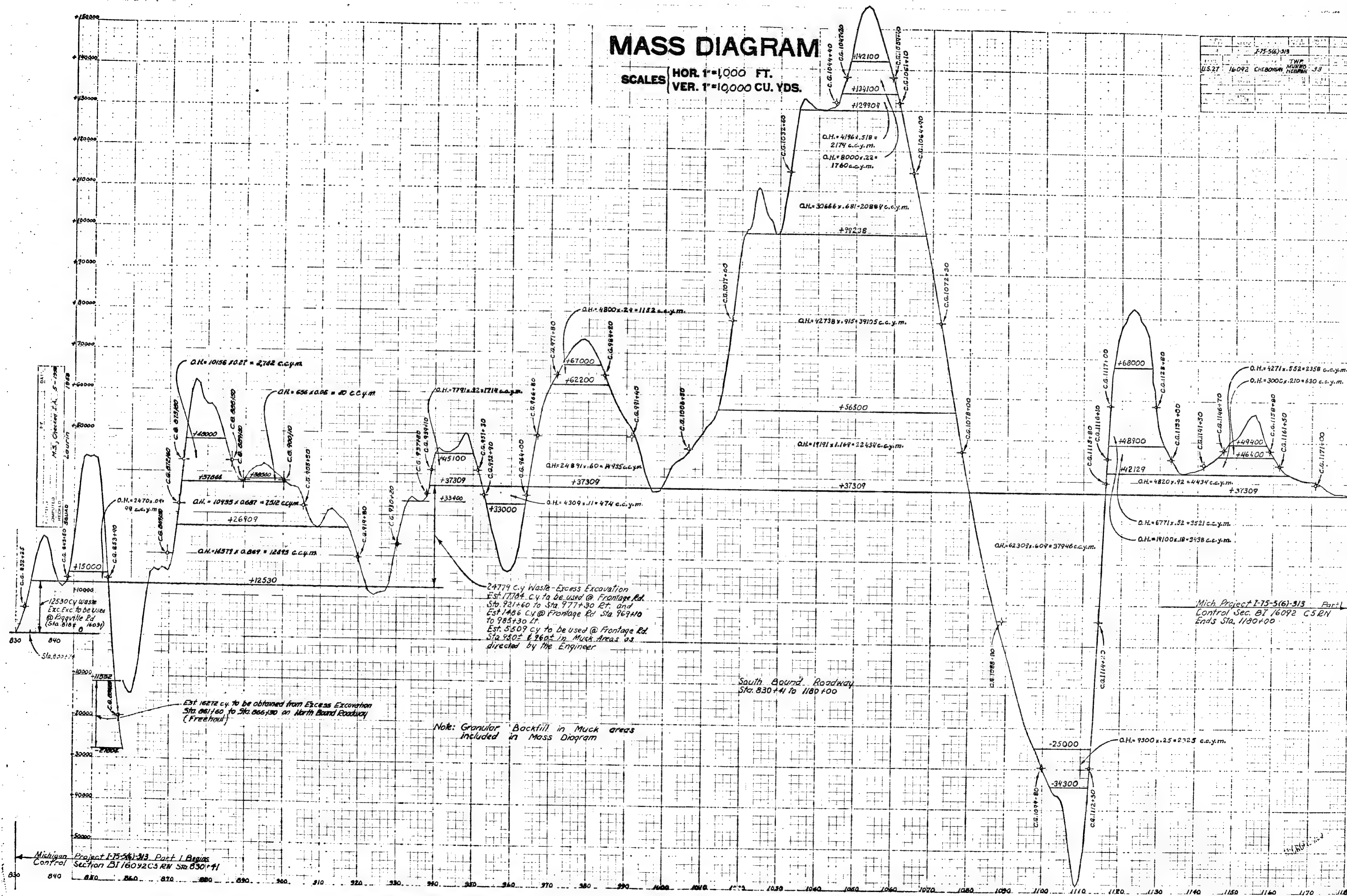
MASS DIAGRAM

SCALES (HOR. 1"=1,000'
VER. 1"=10,000 C.Y.)

75-5(6)-313
11/27 16092 CHEBOYGAN HIGHWAY
TWP. 32
N. 1000
H. 32



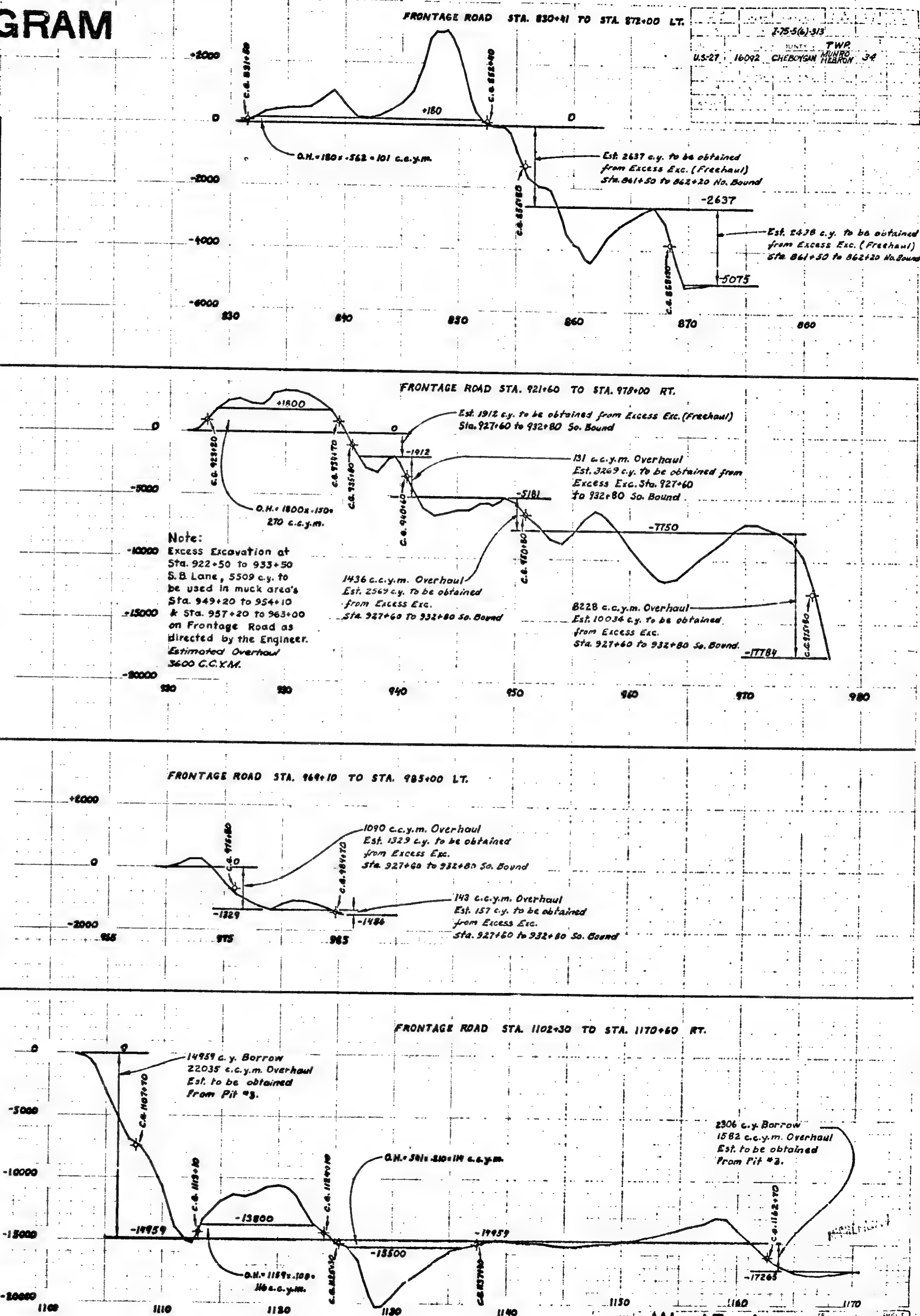
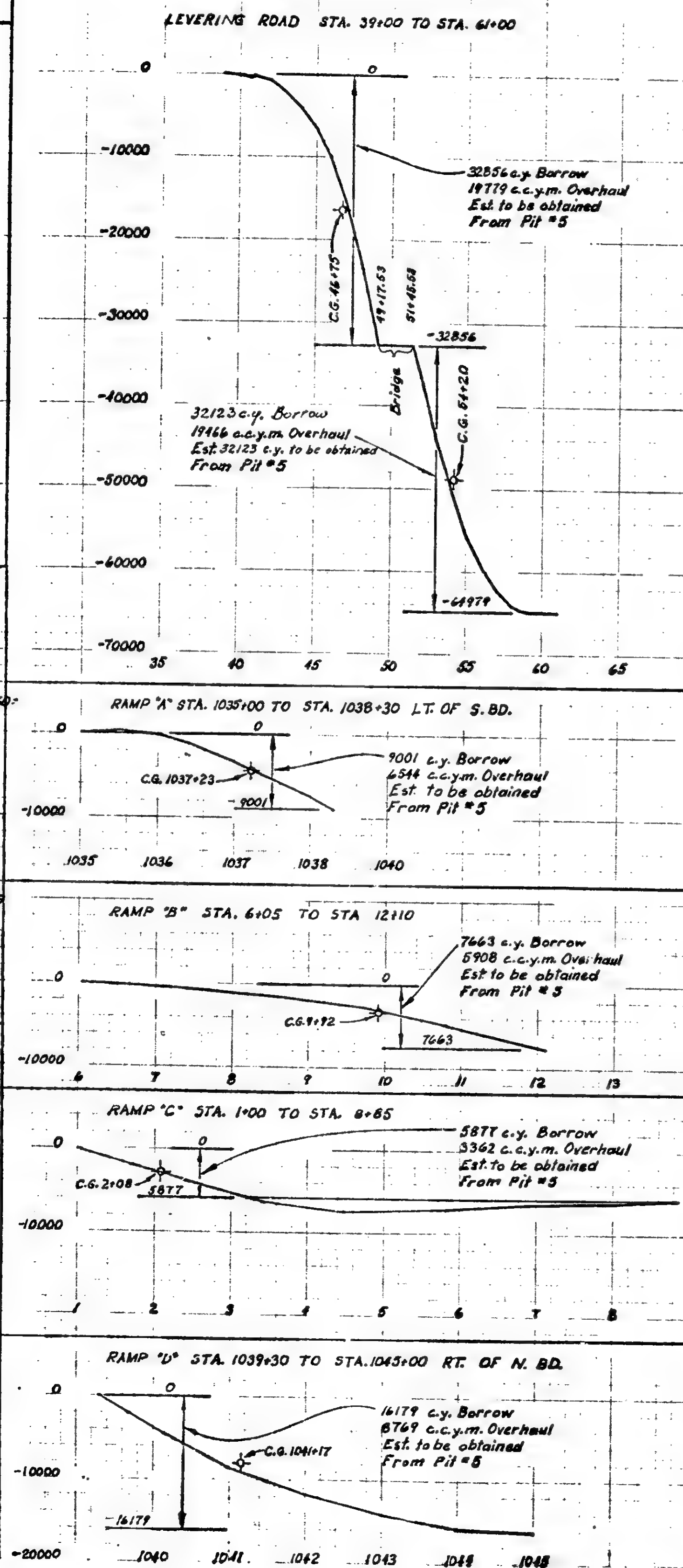
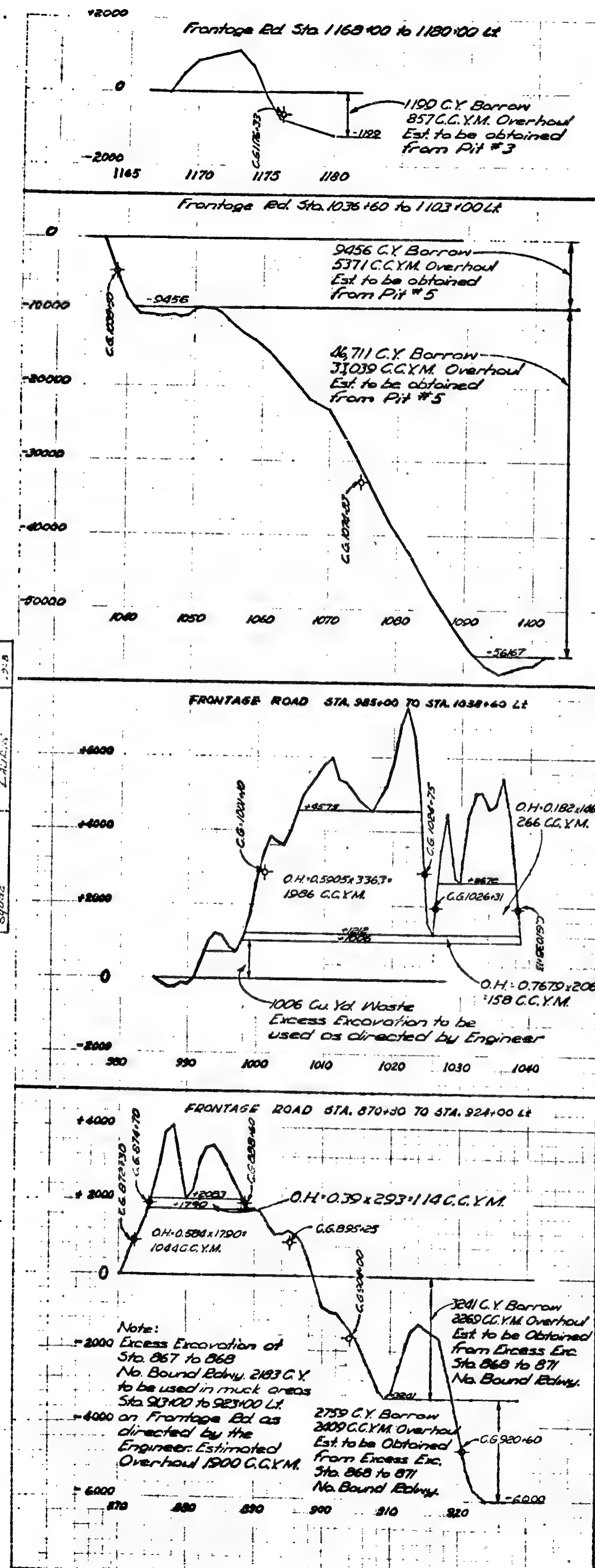
SCALES { **HOR. 1"=1,000 FT.**
VER. 1"=10,000 CU. YDS.



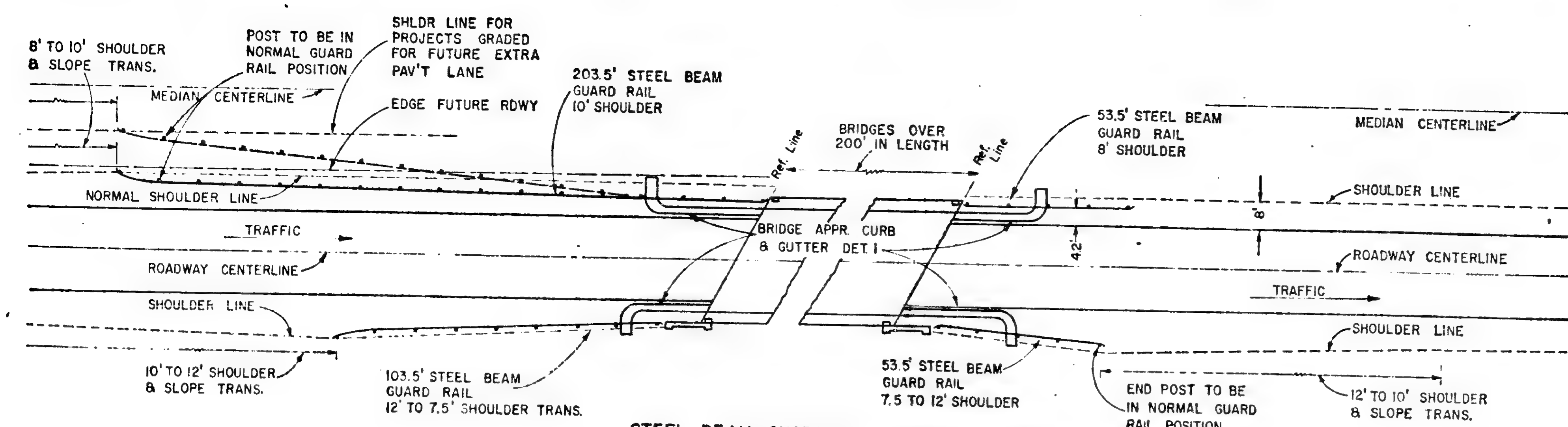
W-15-

16092-05

MASS DIAGRAM

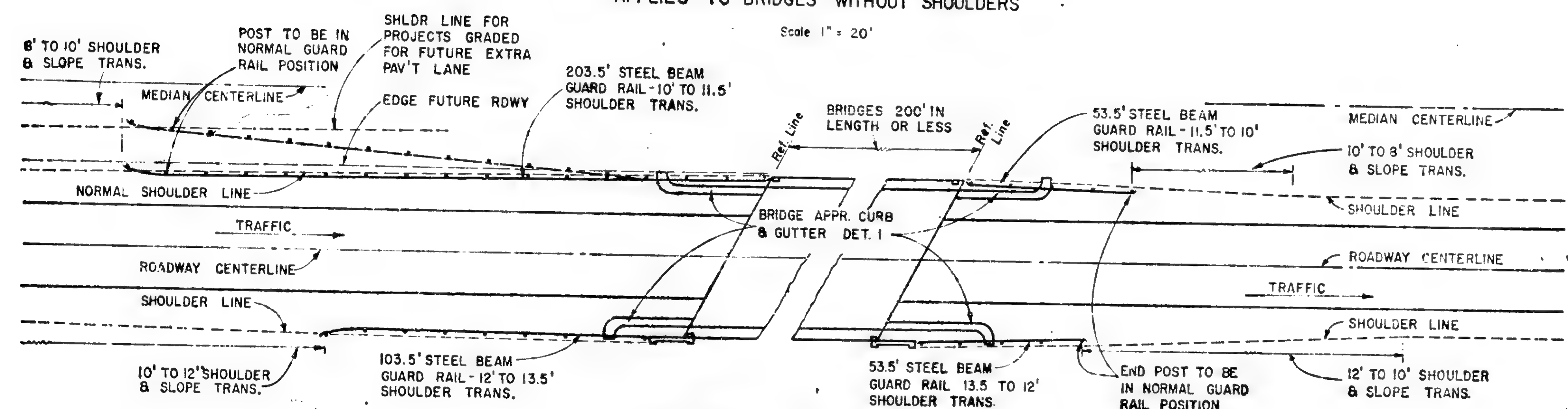


Route	State Proj.	Federal Proj.	Sheet No.	Total Sheets
U.S. 27	16092	I-75-5(6)-313	35	



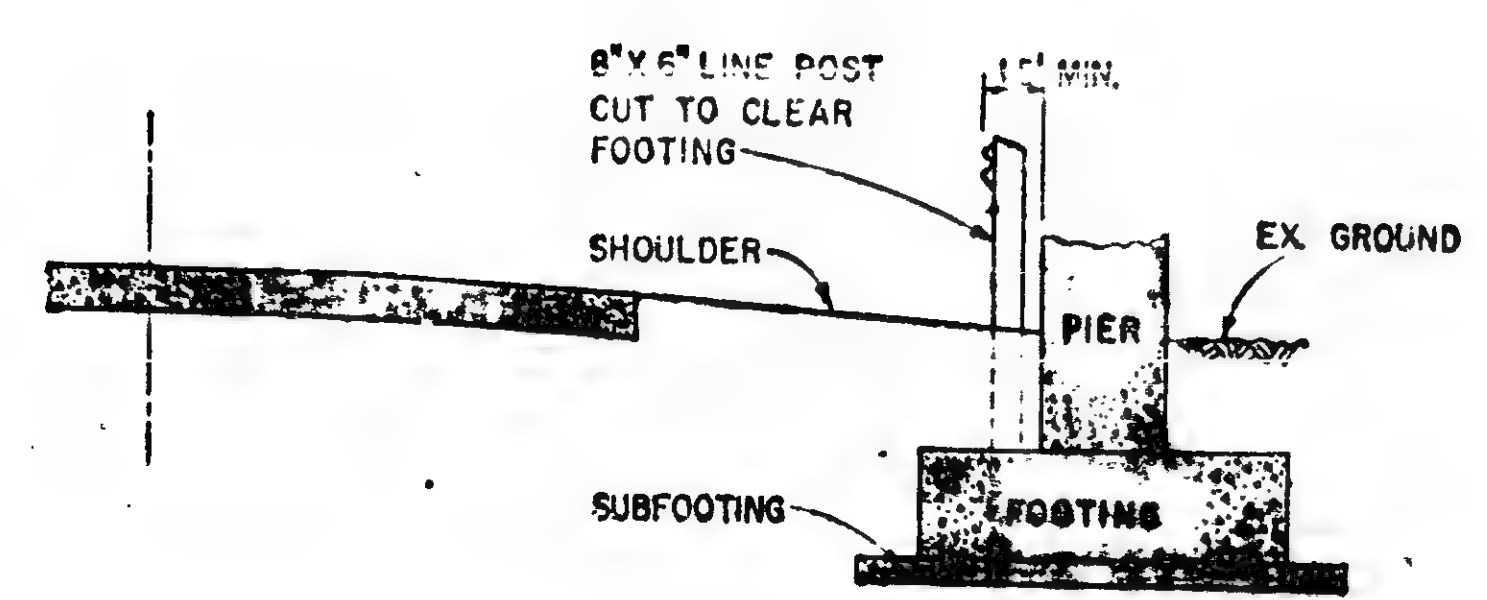
STEEL BEAM GUARD RAIL CONSTRUCTION
AT BRIDGE APPROACHES
APPLIES TO BRIDGES WITHOUT SHOULDERS

Scale 1" = 20'

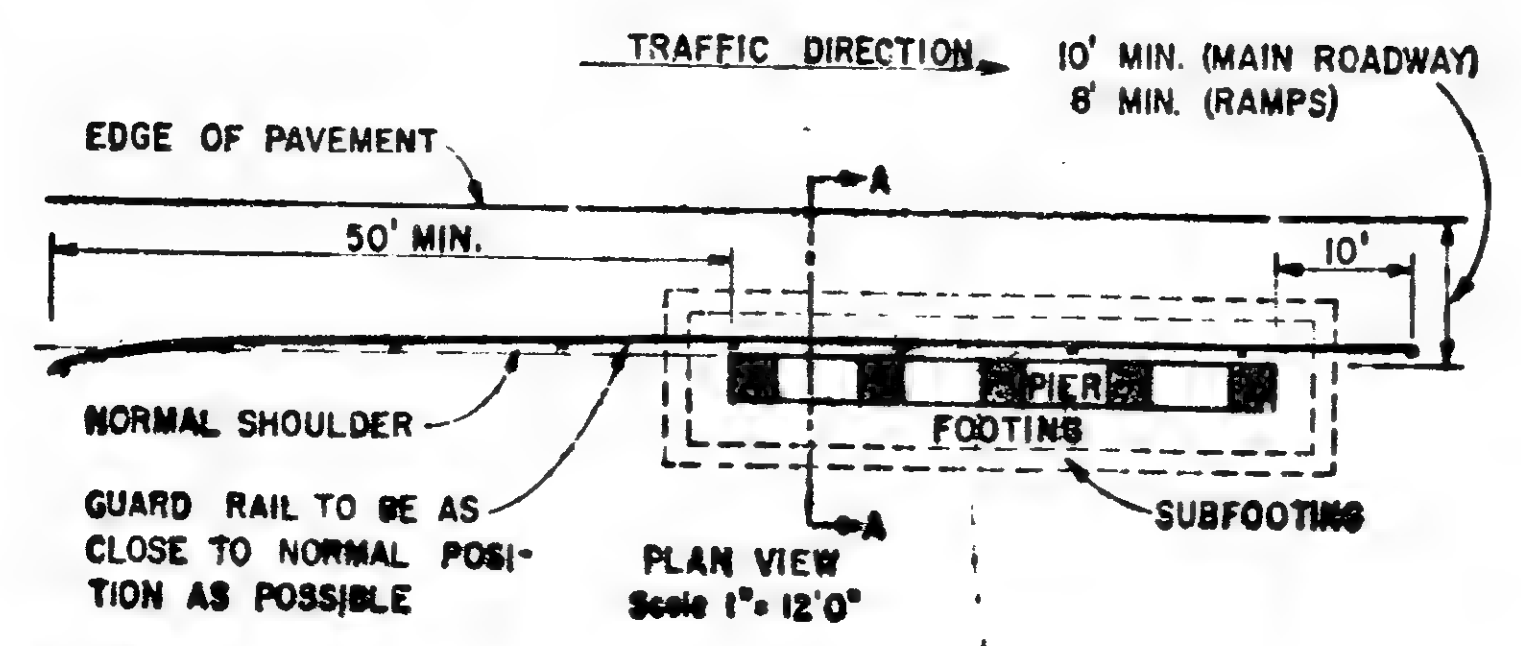


STEEL BEAM GUARD RAIL CONSTRUCTION
AT BRIDGE APPROACHES
APPLIES TO BRIDGES WITH SHOULDERS

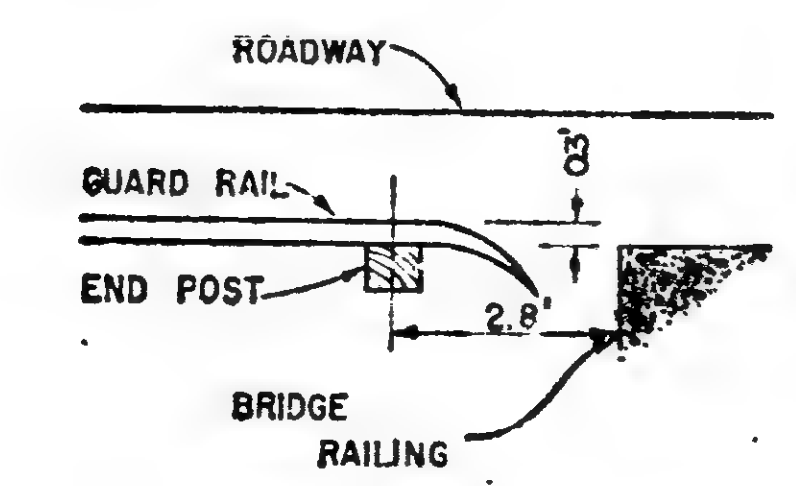
Scale 1" = 20'



ELEVATION VIEW
SECTION A-A
Scale 1" = 4'0"



DETAIL SHOWING
STEEL BEAM GUARD RAIL PROTECTION AT PIERS
FOR ROADWAY UNDER BRIDGES



DETAIL SHOWING END POST
FOR ROADWAY OVER BRIDGES

PLAN NOTES:

THE LENGTH OF BRIDGE APPROACH CURB AND GUTTER SHALL BE VARIED TO LOCATE THE SPILLWAY CLEAR OF GUARD RAIL POSTS. THE SPILLWAY SHALL EXTEND TWO FEET BEYOND THE SHOULDER.

WHERE STEEL BEAM GUARD RAIL IS TO BE USED IN THE PROXIMITY OF BRIDGE APPROACH CURB AND GUTTER, THE SHOULDER SHALL BE SLOPED DOWN FROM THE CURB.

THE VERTICAL ALIGNMENT SHALL BE MODIFIED TO LOWER THE RAIL ELEMENT NEAREST THE BRIDGE 0.5' AND A STRAIGHT LINE TRANSITION USED TO THE FIFTH POST FROM THE BRIDGE, AT WHICH POINT THE RAIL ELEMENT SHALL BE NORMAL HEIGHT ABOVE GROUND.

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CURRENT MICHIGAN STATE HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS.

CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARD PLAN FOR STEEL BEAM GUARD RAIL.

MICHIGAN STATE HIGHWAY DEPARTMENT STANDARD PLAN FOR LOCATION OF GUARD RAIL AT STRUCTURES	
DESIGN AND TRAFFIC DIVISIONS	2-25-58
CHECKED <i>[Signature]</i>	DATE
RECOMMENDED FOR APPROVAL <i>[Signature]</i>	6-19-58
RECOMMENDED FOR APPROVAL <i>[Signature]</i>	7-2-58
OFFICE OF ENGINEERING AND CONSTRUCTION	
APPROVED <i>[Signature]</i>	6-22-58
APPROVED <i>[Signature]</i>	7-2-58
STATE HIGHWAY DEPARTMENT APPROVAL	
APPROVED JOHN C. MACKIE, STATE HIGHWAY COMMISSIONER	
BY <i>[Signature]</i>	
DRAWN BY RJM CHECKED BY RHR TRACED BY RJM APPROVED BJR	
W-15-1	

CULVERTS (Continued From Sheet Number 36)

AS PER PLANS										AS CONSTRUCTED										AS PER PLANS										AS CONSTRUCTED									
STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION	STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION	STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION	STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION	STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION	STA. TO STA.	AS PER PLANS	AS CONSTRUCTED	EXPLANATION																
SUBBASE (North Bound Roadway)										SUBBASE (South Bound Roadway)										SUBBASE (Kronberg Roadway)																			
830141-830179	22375	22375		830141-830179	22375	22375		830141-830179	22375	22375		830141-830179	22375	22375		830141-830179	22375	22375		830141-830179	22375	22375																	
830179-830200	1140	1140		830179-830200	1140	1140		830179-830200	1140	1140		830179-830200	1140	1140		830179-830200	1140	1140		830179-830200	1140	1140																	
830200-830217	6007	6007		830200-830217	6007	6007		830200-830217	6007	6007		830200-830217	6007	6007		830200-830217	6007	6007		830200-830217	6007	6007																	
830217-830240	4081	4081		830217-830240	4081	4081		830217-830240	4081	4081		830217-830240	4081	4081		830217-830240	4081	4081		830217-830240	4081	4081																	
830240-830260	4955	4955		830240-830260	4955	4955		830240-830260	4955	4955		830240-830260	4955	4955		830240-830260	4955	4955		830240-830260	4955	4955																	
830260-830276	2119	2119		830260-830276	2119	2119		830260-830276	2119	2119		830260-830276	2119	2119		830260-830276	2119	2119		830260-830276	2119	2119																	
830276-830300	9499	9499		830276-830300	9499	9499		830276-830300	9499	9499		830276-830300	9499	9499		830276-830300	9499	9499		830276-830300	9499	9499																	
830300-830310	1311	1311		830300-830310	1311	1311		830300-830310	1311	1311		830300-830310	1311	1311		830300-830310	1311	1311		830300-830310	1311	1311																	
830310-830311	328	328		830310-830311	328	328		830310-830311	328	328		830310-830311	328	328		830310-830311	328	328		830310-830311	328	328																	
830311-830312	6042	6042		830311-830312	6042	6042		830311-830312	6042	6042		830311-830312	6042	6042		830311-830312	6042	6042		830311-830312	6042	6042																	
830312-830313	5326	5326		830312-830313	5326	5326		830312-830313	5326	5326		830312-830313	5326	5326		830312-830313	5326	5326		830312-830313	5326	5326																	
830313-830314	4826	4826		830313-830314	4826	4826		830313-830314	4826	4826		830313-830314	4826	4826		830313-830314	4826	4826		830313-830314	4826	4826																	
830314-830315	4633	4633		830314-830315	4633	4633		830314-830315	4633	4633		830314-830315	4633	4633		830314-830315	4633	4633		830314-830315	4633	4633																	
830315-830316	1517	1517		830315-830316	1517	1517		830315-830316	1517	1517		830315-830316	1517	1517		830315-830316	1517	1517		830315-830316	1517	1517																	
830316-830317	7538	7538		830316-830317	7538	7538		830316-830317	7538	7538		830316-830317	7538	7538		830316-830317	7538	7538		830316-830317	7538	7538																	
830317-830318	2859	2859		830317-830318	2859	2859		830317-830318	2859	2859		830317-830318	2859	2859		830317-830318	2859	2859		830317-830318	2859	2859																	
SUBTOTALS										SUBTOTALS										SUBTOTALS																			
TOTALS										TOTALS										TOTALS																			
FOR TOTALS SEE SHEET NO. 38										FOR TOTALS SEE SHEET NO. 38										FOR TOTALS SEE SHEET NO. 38																			

PLAN ESTIMATE BY V. Richey & R. Perry DATE Aug. 19, 1958 CHECKED BY Laurin & Fuller DATE Sept. 10, 1958 DATA COMPLETED

TOTALS			TOTALS		
DATE			HISTORY CHECKED		
			ENTERED ON PLANS		

DATE DATE

W-15-1

SURFACING CULVERTS

MISCELLANEOUS

MISCELLANEOUS

AS PER PLANS

AS CONSTRUCTED

EXPLANATION OF
CHANGES

DIVINGMAN'S MARSH Rec 6 1/2 " 30" x 1/2 " 2054"		CHANGES	
Clearing	42 Acres	Clearing	1.77776 Acres
Grubbing	192 Sq.Fds.	Grubbing	240 Sq.Fds.
Earth Exc.	2500 Cu.Yds.	Earth Exc.	3056 Cu.Yds.
Overhaul	1250 Ccym.	Overhaul	0 Ccym.

REC. NO 18 APR 27-2012
PAYMENT FOR INCREASE IN
COMMON CARRIER RATES
67,650 BARRELS @ 0.024 PER
BARREL AMOUNT \$1,353.00

PLAN ESTIMATE BY V. Pichey & R. Perry DATE Aug. 19, 1958 CHECKED BY Laurin & Fuller

DATE *Sept 10, 1958*

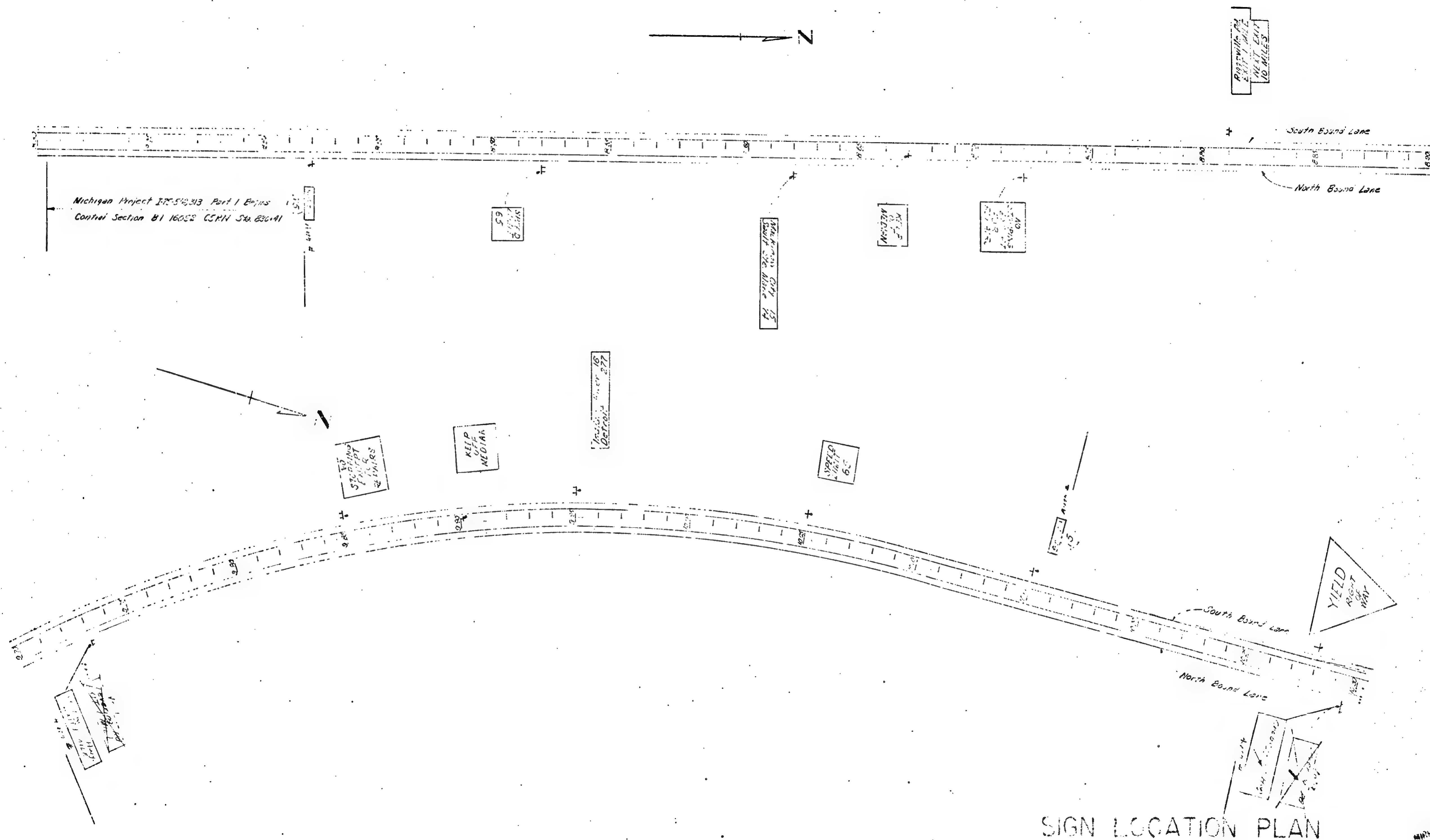
STATES

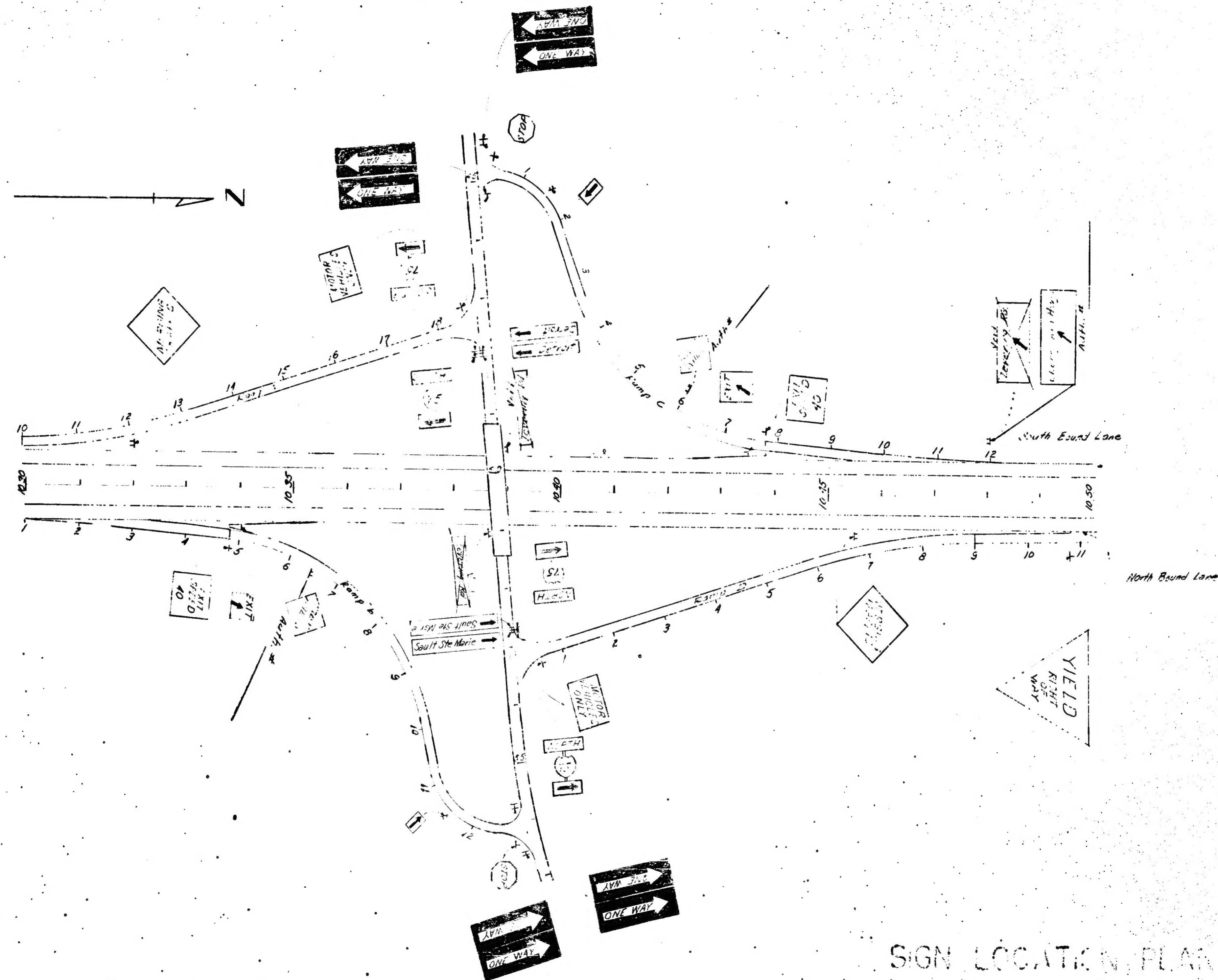
14

© 1997 The Authors
Journal compilation © 1997 Blackwell Science Ltd

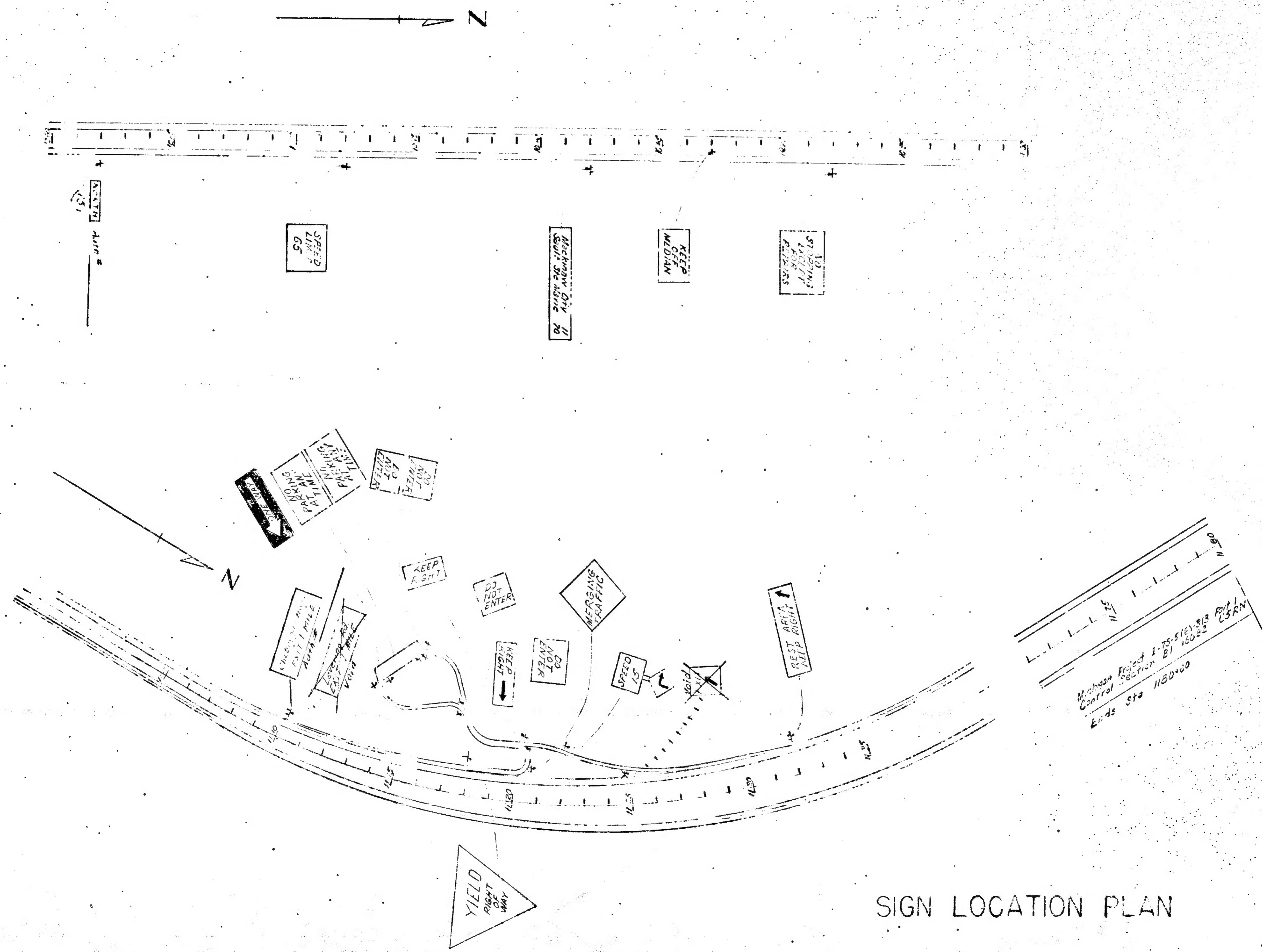
W-15-1

38-





SIGN LOCATION PLAN



SIGN LOCATION PLAN

QUANTITY SHEET -- SIG. & SUPPORTS

[illegible]

16092
C355

W-15-1	STATE PROJECT	FEDERAL PROJECT
	16084	175-500

TOTALS THIS SHEET
TOTALS SHEET #42
TOTALS THIS CONTRACT

W-15-1